

Smartphone Cameras Take Off—Like a Rocketship F2Q Sales Up 50% Sequentially, But Margins Get Slammed. Buy This Stock.

Diluted Shares(mil):	56.2	Closing Price 11/30/12	fye April	FY12act	FY13	FY14
Market Cap(\$mil):	\$848	\$15.09	Revenue(\$mil)	\$897.7	\$1,406.7	\$1,456.4
Avg Volume(,000):	1,610		EPS	\$1.60	\$1.25	\$2.04
Net Cash/Share:	\$1.75	Recommendation/Target	Price/Sales	0.9	0.6	0.6
Tangible Book/Share:	\$12.82	Buy/\$30	Price/EPS	9.4	12.1	7.4

OmniVision is a fabless semiconductor company that is a leading supplier of CMOS image sensors.

Summary: OVTI delivered jaw-dropping revenue growth over 50% sequentially last quarter on the strength of 1.3-megapixel image sensor shipments to smartphone customers, but also from larger resolution devices and tablet markets. However, gross margin was slammed down to 16.8% due to manufacturing challenges associated with the ramp of new technology. While management cautioned that a fix will take some time, I believe share price weakness offers investors a golden opportunity to share in competitive and financial benefits the company will reap after that fix occurs. I recommend OVTI as a Buy with a 12-month target price of \$30 based on 1.2x FY14 sales.

F2Q Review: Revenue rocketed up by over 50% sequentially to \$390M, just above the high-end of guidance, on shipment strength to smartphones and tablets. However, gross margin at 16.8% declined by 270 basis points to an even-worse than expected 16.8% due to manufacturing challenges associated with the new OmniBSI-2 technology. Pro forma EPS of \$0.33 exceeded consensus by two-cents, my estimate by a penny, and came in above the mid-point of guidance as revenue strength and operating expense control more than offset margin weakness. Cash dropped by \$97M to \$140M as receivables ballooned up by \$106.6M to \$249M or 58 days, and inventory eked down by \$4.5M to a still-high \$399M or 110 days as the company scrambled to fuel customer demand.

FYE April pro forma, millions	F2Q					
	Estimate	Actual	EPS Impact	Guidance	Consensus	Range
Revenue	\$375.0	\$390.1	\$0.05	\$355-390	\$375.0	372-384.8
Revenue Growth	45.3%	51.2%		+37.6+51.1%	45.3%	+44.2+49.1%
Gross Margin	18.0%	16.8%	(\$0.09)			
Op Expense	\$45.8	\$43.4	\$0.05			
Interest/Other Inc	(\$0.5)	\$0.7	\$0.02			
Taxes	\$3.5	\$4.4	(\$0.02)	\$3.0-4.0		
Shares	55.49	56.20				
Diluted EPS	\$0.32	\$0.33	\$0.01	\$0.21-\$0.37	\$0.31	\$0.27-\$0.35

Unit shipments increased to a record 249M up from 166M the prior quarter, ASPs firmed up to \$1.56 from \$1.55, and OEM shipments increased to 85.2% from 72.5%. 2Mp and above sensors accounted for 31% of unit shipments, down from 37%; 1.3Mp stepped-up to 48% from 31%; and VGA declined to 21% from 32%. Mobile phone sales accounted for 59% of revenue up from 48%, entertainment markets grew to 29% from 27%, and notebook PCs and webcams declined to 6% from 15%.

Smartphones on Fire: The explosion in sales growth was lead by smartphone consumption of the OV9760, a 1.3Mp, 720p HD device manufactured in the company's brand new OmniBSI-2 technology as the secondary camera in high-end smartphones to a variety of tier one and also Chinese manufacturers. This accounted for the strength in overall units, ASP stability, mobile sales, 1.3Mp shipments—and gross margin weakness associated with OmniBSI-2. Popularity of this device is attributed to image quality and low-profile form factor, making it ideal for use in very thin handsets, and management noted CameraChipCube interest in this device to be very high as well given its tiny form factor (at 2.4 x 2.4 x 2.3mm it only looks big next to the head of a pin) as customers look to upgrade from VGA resolution (which took a hit last quarter, and management believes may finally be in decline). The company also noted strong and steady shipment growth on an absolute basis of 8Mp devices as primary cameras into mid- and high-end smartphones and quarter-inch 5Mp devices as primary cameras for mid-range offerings in Asia, although they did not keep up with the 1.3Mp devices on a relative basis (hence the lag in the 2Mp mix). Management defended its market strength due to the quality of its offerings and channel strength in Asia—despite the fact that competitor Samsung largely uses its own sensors and Apple has been rumored to be using Sony more so than OVTI. When I do the math for the calendar year I come up with OVTI camera phone market share around 25%, which is a

few points up from last year, consistent with its overall CMOS image sensor market share, doesn't require dominance at either Samsung or Apple to accomplish, and still leaves room for both market growth and share gains.

That's Entertainment: Entertainment market growth kept up with that in the handset space and was due to seasonal tablet strength from multiple OEM brand name design wins for 1.3Mp and 5Mp products in both OmniBSI-1 and OmniBSI-2 technology generations. Management believes it is the leading supplier to this space with much of its popularity due to compatibility with thin form factors.

The notebook PC and webcam market experienced an even sharper decline than had been expected, and the company blamed tablet popularity as the culprit. Nevertheless, OVTI is the leading supplier to this market, is hopeful that this tablet challenge is sparking innovation among PC players, and claims significant ultrabook design wins—again, due to its ability to support thin form factors.

Manufacturing Massacres Margins: OVTI's second-generation, back-side illumination pixel technology, OmniBSI-2, offers a large number of significant benefits—not the least of which is high-quality image capture in very thin form factors. Clearly, its advantages and features are fully appreciated and desired by customers after the growth in sales the company has experienced over the last three quarters. Longer-term, the technology offers less expensive and higher-volume manufacturing by avoiding the cost of SOI wafers and embracing 65nm process technology on 300mm wafers. Unfortunately, near-term it has become a gross margin nightmare. Management is well aware and highly sensitized to current margin pressure, although noted it will take some time to fix and seemed to hint that improving yields is a huge factor. While time to fix may be measured in quarters rather than weeks or months, I am a glass half-full kinda guy with respect to this problem. First of all, I think the company will fix the yield and return gross margin to historical norms. Second, its competitor base is shrinking and current margin pressure from the only publically-traded, pure-play CMOS image sensor supplier could easily scare money away from funding such an endeavor (think Aptina). Third, OVTI can afford this problem: it's already costing them \$100M in working capital, but it has a strong enough balance sheet to play this game. And finally, after the fix occurs OVTI is likely to have an extremely significant advantage in terms of cost and volume compared to its competitors—and that gross margin leverage on the income statement will be just as jaw-dropping as last quarter's revenue growth. Gross margin of 16.8% in this business is a catastrophe, but it is NOT LOSING MONEY.

Management Guidance: For F3Q is: sales of \$390-425M; flat R&D; SG&A to increase slightly; GAAP tax expense of \$5-6M; pro forma tax expense of \$4-5M; GAAP EPS of \$0.17-\$0.30; and pro forma EPS of \$0.33-\$0.46. My near-term estimates reflect the higher-end of management guidance; gross margin recovery is much more shallow than I had previously modeled; and I have chosen to reflect limited revenue growth over the next six quarters mostly because I can without affecting my valuation argument. In addition, I like the fact I can pocket the likelihood of margin and revenue upside on continuing smartphone market strength amid the cautious and uncertain investor sentiment so prevalent throughout equity and financial markets at this time.

FYE April <i>pro forma, millions</i>	F3Q		FY13		FY14	
	Previous	Update	Previous	Update	Previous	Update
Revenue	\$375.0	\$410.0	\$1,383.1	\$1,151.6	\$1,556.9	\$1,456.4
Revenue Growth	0.0%	5.1%	54.1%	56.7%	12.6%	3.5%
Gross Margin	20.0%	17.8%	19.9%	18.1%	24.3%	23.3%
Op Expense	\$48.2	\$43.7	\$186.0	\$174.4	\$224.5	\$203.3
Interest/Other Inc	(\$0.5)	(\$0.5)	(\$2.2)	(\$1.0)	(\$2.0)	(\$2.0)
Taxes	7.0%	\$4.4	6.1%	\$11.1	7.0%	\$17.8
Shares	55.76	56.18	55.62	56.00	56.70	57.13
Diluted EPS	\$0.44	\$0.43	\$1.49	\$1.25	\$2.48	\$2.04

Buy This Stock: OVTI is stupid cheap any way that I look at it: P/S, P/E, even P/Book—in my opinion. See Page 6. My 12-month target price of \$30 is based on 1.2-times FY14 sales, and I don't think the associated 15-times earnings will get in the way—especially given the modest expectations baked into such numbers. Upside potential significantly exceeds downside risk at current price levels, in my opinion, and I recommend OVTI as a Buy.

<i>pro forma EPS</i>	F3Q	FY13	FY14
<i>Tokeneke-revised</i>	\$0.43	\$1.25	\$2.04
<i>Tokeneke-previous</i>	\$0.44	\$1.49	\$2.48
Consensus-previous	\$0.35	\$1.18	\$1.58
Highest Est-previous	\$0.49	\$1.59	\$2.16
Lowest Est-previous	\$0.26	\$0.99	\$1.05

<i>Revenue</i>	F3Q	FY13	FY14
<i>Tokeneke-revised</i>	\$410.0	\$1,151.6	\$1,456.4
<i>Tokeneke-previous</i>	\$375.0	\$1,383.1	\$1,556.9
Consensus-previous	\$365.2	\$1,340.0	\$1,410.0
Highest Est-previous	\$408.7	\$1,450.0	\$1,690.0
Lowest Est-previous	\$320.0	\$1,260.0	\$1,020.0

—Dan K. Scovel
Semiconductor Analyst

OmniVision Technologies

4275 Burton Drive, Santa Clara, CA 95054

408-567-3000

Income Statement

www.ovt.com

dollars in thousands, except per share data
fiscal year ends April

	FY2012 act				FY2013 est				FY2014										
	FY2008	FY2009	FY2010	FY2011	Q1	Q2	Q3	Q4	FY2012	Q1A	Q2A	Q3	Q4	FY2013	Q1	Q2	Q3	Q4	FY2014
Revenue	799,628	507,316	602,991	956,476	276,071	217,919	185,193	218,547	897,730	258,064	390,137	410,000	348,500	1,406,701	331,075	364,183	400,601	360,541	1,456,399
COGS	589,822	386,377	454,936	676,494	188,214	150,546	139,506	168,516	646,782	207,789	324,476	337,020	282,285	1,151,570	264,860	284,062	304,457	263,195	1,116,574
Gross Profit	209,806	120,939	148,055	279,982	87,857	67,373	45,687	50,031	250,948	50,275	65,661	72,980	66,215	255,131	66,215	80,120	96,144	97,346	339,825
R&D	67,331	72,888	67,078	78,964	25,741	25,778	22,575	23,274	97,368	24,096	26,248	26,248	28,085	104,677	29,490	30,964	32,512	34,138	127,104
SG&A	50,066	51,348	51,025	54,491	13,886	12,983	12,976	13,013	52,858	15,012	14,787	15,083	15,535	60,417	16,001	16,481	16,976	17,485	66,943
Stk Crg/Write-off	-	-	-	774	2,321	2,322	2,321	2,322	9,286	2,321	2,322	2,322	2,322	9,287	2,322	2,322	2,322	2,322	9,288
Operating Expenses	117,397	124,236	118,103	134,229	41,948	41,083	37,872	38,609	159,512	41,429	43,357	43,653	45,943	174,381	47,813	49,767	51,810	53,945	203,335
Operating Income	92,409	(3,297)	29,952	145,753	45,909	26,290	7,815	11,422	91,436	8,846	22,304	29,327	20,272	80,750	18,402	30,353	44,334	43,401	136,490
Interest/Other	11,437	(1,102)	3,801	2,768	(472)	(458)	(411)	234	(1,107)	(664)	686	(500)	(500)	(978)	(500)	(500)	(500)	(500)	(2,000)
Pre-tax Income	103,846	(4,399)	33,753	148,521	45,437	25,832	7,404	11,656	90,329	8,182	22,990	28,827	19,772	79,772	17,902	29,853	43,834	42,901	134,490
Taxes	9,599	275	2,789	151	(733)	4,400	7	790	4,464	(2,239)	4,439	4,439	4,439	11,078	4,439	4,439	4,439	4,439	17,756
Minority Interest	33	746	321	32	1,017	8,626	0	0	9,643	1,140	0	0	0	1,140	0	0	0	0	0
Net Income	94,280	(3,928)	31,285	148,402	47,187	30,058	7,397	10,866	95,508	11,561	18,551	24,388	15,333	69,834	13,463	25,414	39,395	38,462	116,734
EPS-basic	\$1.73	(\$0.08)	\$0.59	\$2.68	\$0.80	\$0.50	\$0.13	\$0.21	\$1.69	\$0.22	\$0.35	\$0.45	\$0.28	\$1.30	\$0.25	\$0.47	\$0.72	\$0.70	\$2.13
Shares-basic	54,401	50,523	52,856	55,324	58,650	59,612	56,070	52,334	56,667	52,830	53,514	53,782	54,050	53,544	54,321	54,592	54,865	55,140	54,729
EPS-diluted	\$1.69	(\$0.08)	\$0.59	\$2.49	\$0.75	\$0.48	\$0.13	\$0.20	\$1.60	\$0.21	\$0.33	\$0.43	\$0.27	\$1.25	\$0.24	\$0.45	\$0.69	\$0.67	\$2.04
Shares-diluted	55,829	50,523	52,765	59,664	63,332	62,544	58,411	54,751	59,510	55,186	56,211	56,182	56,450	56,007	56,721	56,992	57,265	57,540	57,129
GAAP EPS	\$1.19	(\$0.74)	\$0.13	\$2.11	\$0.68	\$0.35	\$0.00	\$0.05	\$1.13	\$0.04	\$0.19	\$0.26	\$0.07	\$0.58	\$0.02	\$0.20	\$0.41	\$0.37	\$0.99
Margin Analysis																			
Gross Margin	26.2%	23.8%	24.6%	29.3%	31.8%	30.9%	24.7%	22.9%	28.0%	19.5%	16.8%	17.8%	19.0%	18.1%	20.0%	22.0%	24.0%	27.0%	23.3%
R&D	8.4%	14.4%	11.1%	8.3%	9.3%	11.8%	12.2%	10.6%	10.8%	9.3%	6.7%	6.4%	8.1%	7.4%	8.9%	8.5%	8.1%	9.5%	8.7%
SG&A	6.3%	10.1%	8.5%	5.7%	5.0%	6.0%	7.0%	6.0%	5.9%	5.8%	3.8%	3.7%	4.5%	4.3%	4.8%	4.5%	4.2%	4.8%	4.6%
Stk Chrg/Write-off	0.0%	0.0%	0.0%	0.1%	0.8%	1.1%	1.3%	1.1%	1.0%	0.9%	0.6%	0.6%	0.7%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%
Operating Income	11.6%	-0.6%	5.0%	15.2%	16.6%	12.1%	4.2%	5.2%	10.2%	3.4%	5.7%	7.2%	5.8%	5.7%	5.6%	8.3%	11.1%	12.0%	9.4%
Pre-tax Income	13.0%	-0.9%	5.6%	15.5%	16.5%	11.9%	4.0%	5.3%	10.1%	3.2%	5.9%	7.0%	5.7%	5.7%	5.4%	8.2%	10.9%	11.9%	9.2%
Tax Rate	9.2%	-6.3%	8.3%	0.1%	-1.6%	17.0%	0.1%	6.8%	4.9%	-27.4%	19.3%	15.4%	22.5%	13.9%	24.8%	14.9%	10.1%	10.3%	13.2%
Net Income	11.8%	-0.8%	5.2%	15.5%	17.1%	13.8%	4.0%	5.0%	10.6%	4.5%	4.8%	5.9%	4.4%	5.0%	4.1%	7.0%	9.8%	10.7%	8.0%
Qtr-to-Qtr Growth																			
Revenue					6.9%	-21.1%	-15.0%	18.0%		18.1%	51.2%	5.1%	-15.0%		-5.0%	10.0%	10.0%	-10.0%	
Operating Expenses					7.4%	-2.1%	-7.8%	1.9%		7.3%	4.7%	0.7%	5.2%		4.1%	4.1%	4.1%	4.1%	
Operating Income					12.5%	-42.7%	-70.3%	46.2%		-22.6%	152.1%	31.5%	-30.9%		-9.2%	64.9%	46.1%	-2.1%	
Pre-tax Income					9.0%	-43.1%	-71.3%	57.4%		-29.8%	181.0%	25.4%	-31.4%		-9.5%	66.8%	46.8%	-2.1%	
Net Income					15.7%	-36.3%	-75.4%	46.9%		6.4%	60.5%	31.5%	-37.1%		-12.2%	88.8%	55.0%	-2.4%	
EPS					12.3%	-35.5%	-73.6%	56.7%		5.6%	57.5%	31.5%	-37.4%		-12.6%	87.9%	54.3%	-2.8%	
Year-to-Year Growth																			
Revenue	51.4%	-36.6%	18.9%	58.6%	43.0%	-9.0%	-30.3%	-15.4%	-6.1%	-6.5%	79.0%	121.4%	59.5%	56.7%	28.3%	-6.7%	-2.3%	3.5%	3.5%
Operating Expenses	17.0%	5.8%	-4.9%	13.7%	40.0%	32.4%	10.8%	-1.1%	18.8%	-1.2%	5.5%	15.3%	19.0%	9.3%	15.4%	14.8%	18.7%	17.4%	16.6%
Operating Income	57.2%	-103.6%	-1008.5%	386.6%	103.8%	-28.8%	-82.8%	-72.0%	-37.3%	-80.7%	-15.2%	275.3%	77.5%	-11.7%	108.0%	36.1%	51.2%	114.1%	69.0%
Pre-tax Income	44.1%	-104.2%	-867.3%	340.0%	90.7%	-28.4%	-84.2%	-72.0%	-39.2%	-82.0%	-11.0%	289.3%	69.6%	-11.7%	118.8%	29.9%	52.1%	117.0%	68.6%
Net Income	81.0%	-104.2%	-896.5%	374.4%	110.8%	-12.2%	-85.5%	-73.4%	-35.6%	-75.5%	-38.3%	229.7%	41.1%	-26.9%	16.5%	37.0%	61.5%	150.8%	67.2%
EPS	81.4%	-104.6%	-862.6%	319.5%	90.2%	-17.6%	-84.9%	-70.1%	-35.5%	-71.9%	-31.3%	242.8%	36.9%	-22.3%	13.3%	35.1%	58.5%	146.1%	63.9%

OmniVision Technologies

Financial Summary

(dollars in thousands)

Fiscal year ends April

	FY09	FY10	FY11	FY12	2QF12	3QF12	4QF12	1QF13	2QF13
Assets									
Cash and equivalents	257,808	234,023	379,379	290,492	427,694	211,157	290,492	191,786	115,511
Short-term investments	16,973	99,555	87,505	40,515	37,095	25,312	40,515	44,779	24,096
Net accounts receivable	<u>43,978</u>	<u>74,261</u>	<u>142,606</u>	<u>107,793</u>	<u>126,755</u>	<u>132,749</u>	<u>107,793</u>	<u>142,687</u>	<u>249,283</u>
Quick Assets	318,759	407,839	609,490	438,800	591,544	369,218	438,800	379,252	388,890
Inventories	105,024	133,993	106,873	291,340	250,554	247,274	291,340	403,201	398,694
Other	<u>8,871</u>	<u>11,370</u>	<u>14,608</u>	<u>12,625</u>	<u>14,165</u>	<u>10,234</u>	<u>12,625</u>	<u>24,629</u>	<u>14,122</u>
Current Assets	432,654	553,202	730,971	742,765	856,263	626,726	742,765	807,082	801,706
Property, plant and eqt, net	119,071	121,547	115,446	144,792	142,527	142,616	144,792	151,905	154,045
Long-term investments	85,469	92,121	104,616	128,940	119,965	121,065	128,940	119,198	127,178
Goodwill and intangibles	7,396	5,330	71,014	79,255	85,664	82,460	79,255	76,050	73,527
Other assets	<u>22,341</u>	<u>25,493</u>	<u>12,111</u>	<u>7,205</u>	<u>7,125</u>	<u>7,225</u>	<u>7,205</u>	<u>19,138</u>	<u>16,951</u>
Total Assets	666,931	797,693	1,034,158	1,102,957	1,211,544	980,092	1,102,957	1,173,373	1,173,407
Liabilities and Shareholders Equity									
Current portion of long-term debt	3,555	4,286	4,323	3,146	3,844	3,888	3,146	2,383	2,141
Accounts payable	28,775	85,487	102,519	159,860	155,099	54,379	159,860	222,185	193,608
Deferred revenue	7,176	10,661	16,594	10,115	12,467	10,406	10,115	10,053	14,094
Other liabilities	<u>12,845</u>	<u>19,506</u>	<u>25,483</u>	<u>36,403</u>	<u>50,770</u>	<u>32,414</u>	<u>36,403</u>	<u>36,192</u>	<u>40,367</u>
Current Liabilities	52,351	119,940	148,919	209,524	222,180	101,087	209,524	270,813	250,210
Long-term debt	32,867	45,428	41,916	39,337	41,088	39,396	39,337	39,071	39,008
Deferred tax liability/other	<u>89,375</u>	<u>95,353</u>	<u>91,998</u>	<u>93,217</u>	<u>107,559</u>	<u>90,830</u>	<u>93,217</u>	<u>89,467</u>	<u>90,146</u>
Total Liabilities	174,593	260,721	282,833	342,078	370,827	231,313	342,078	399,351	379,364
Minority interest	3,497	3,390	0	0	0	0	0	0	0
Common stock	403,222	441,142	533,847	578,978	561,832	569,278	576,008	587,810	596,717
Retained earnings	263,529	270,253	394,735	460,584	457,792	457,903	460,584	462,911	473,256
Other/Treasury Stock	<u>(177,910)</u>	<u>(177,813)</u>	<u>(177,257)</u>	<u>(278,683)</u>	<u>(178,907)</u>	<u>(278,402)</u>	<u>(275,713)</u>	<u>(276,699)</u>	<u>(275,930)</u>
Total Shareholders Equity	488,841	533,582	751,325	760,879	840,717	748,779	760,879	774,022	794,043
Total Liabilities and Equity	666,931	797,693	1,034,158	1,102,957	1,211,544	980,092	1,102,957	1,173,373	1,173,407
Sales and Income									
Revenue	507,316	602,991	956,476	897,736	217,919	185,193	218,547	258,064	390,137
COGS	389,434	457,646	678,459	649,719	151,258	140,337	169,446	208,849	325,453
Net income	(37,323)	6,724	124,482	65,849	21,085	111	2,681	2,327	10,345
Other									
Capital Expenditures	32,227	13,516	10,313	24,186	5,983	7,112	5,703	11,446	
Depreciation and Amortization	19,053	6,403	20,564	29,771	6,750	7,742	7,856	8,524	
Shares (weighted average diluted)	50,523	53,002	59,664	58,233	62,544	58,411	54,751	55,186	56,211
Employees (units)	1,328	1,450	1,465	1,796					
Stock Repurchased							100		
Ratios									
Liquidity									
Quick Ratio	6.09	3.40	4.09	2.09	2.66	3.65	2.09	1.40	1.55
Current Ratio	8.26	4.61	4.91	3.55	3.85	6.20	3.55	2.98	3.20
Leverage									
Debt Ratio	0.26	0.33	0.27	0.31	0.31	0.24	0.31	0.34	0.32
Long-term Debt/Capital	0.18	0.18	0.13	0.12	0.12	0.13	0.12	0.11	0.11
Asset Management									
Fixed Asset Turnover	4.80	5.01	8.07	6.90	6.74	5.20	6.08	6.96	10.20
Total Asset Turnover	0.73	0.82	1.04	0.84	0.75	0.68	0.84	0.91	1.33
Receivables DSO	31	44	54	43	52	65	44	50	58
Inventory Days	97	105	57	161	149	159	155	174	110
Inventory Turnover	3.54	3.83	5.63	3.26	3.07	2.26	2.52	2.41	3.25
Revenue/Employee	316	434	656	551					
Profitability									
Gross Margin	23.2%	24.1%	29.1%	27.6%	30.6%	24.2%	22.5%	19.1%	16.6%
Net Margin	-7.4%	1.1%	13.0%	7.3%	9.7%	0.1%	1.2%	0.9%	2.7%
Return on Assets	-5.4%	0.9%	13.6%	6.2%	7.3%	0.0%	1.0%	0.8%	3.5%
Return on Equity	-7.5%	1.3%	19.4%	8.7%	10.2%	0.1%	1.4%	1.2%	5.3%
Per Share Data									
Book Value/Share	\$9.68	\$10.07	\$12.59	\$13.07	\$13.44	\$12.82	\$13.90	\$14.03	\$14.13
Tangible Book/Share	\$9.53	\$9.97	\$11.40	\$11.71	\$12.07	\$11.41	\$12.45	\$12.65	\$12.82
Cash/Share	\$5.44	\$6.29	\$7.83	\$5.68	\$9.35	\$6.12	\$8.40	\$6.45	\$4.75
Net Cash/Share	\$4.72	\$5.36	\$7.05	\$4.95	\$6.71	\$3.31	\$5.27	\$3.54	\$1.75
Earnings/Share	(\$0.74)	\$0.13	\$2.09	\$1.13	\$0.34	\$0.00	\$0.05	\$0.04	\$0.18

OmniVision Technologies

Sales Analysis

	FY08	FY09	FY10	FY11	FY12	FY2010				FY2011				FY2012				FY2013	
						1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q
Product Metrics																			
Units Shipped (mil)	425.0	327.0	475.0	682.0	614.0	75.0	145.0	130.0	125.0	134.0	185.0	194.0	169.0	171.0	153.0	143.0	147.0	166.0	249.0
Unit growth (calculated)	70.0%	-23.1%	45.3%	43.6%	-10.0%	15.4%	93.3%	-10.3%	-3.8%	7.2%	38.1%	4.9%	-12.9%	1.2%	-10.5%	-6.5%	2.8%	12.9%	50.0%
ASP	\$1.88	\$1.55	\$1.27	\$1.40	\$1.46	\$1.40	\$1.27	\$1.18	\$1.26	\$1.44	\$1.29	\$1.37	\$1.53	\$1.61	\$1.42	\$1.29	\$1.48	\$1.55	\$1.56
ASP change		-17.5%	-18.2%	10.5%	4.3%	2.9%	-9.3%	-7.1%	6.8%	14.3%	-10.4%	6.2%	11.7%	5.2%	-11.8%	-9.2%	14.7%	4.7%	0.6%
VGA and smaller		71.5%	66.6%	54.6%	52.6%	65%	70%	70%	60%	57%	60%	56%	45%	45%	53%	59%	55%	32%	21%
1.3-megapixel		12.8%	9.9%	12.8%	18.5%	15%	10%	5%	12%	10%	12%	11%	18%	18%	23%	19%	14%	31%	48%
2-megapixel and greater		17.8%	23.2%	32.6%	28.8%	20%	20%	25%	27%	33%	28%	33%	37%	37%	24%	22%	31%	37%	31%
By Market																			
Cell Phone				65.0%	56.0%	60%	60%	60%	55%	66%	66%	72%	65%	62%	60%	52%	52%	48%	59%
Digital Camera																			
Security/Surveillance																			
Entertainment										6%	11%	10%	11%	14%	20%	28%	28%	27%	29%
PC Camera/notebook						30%	20%	25%	30%	19%	15%	11%	15%	15%	9%	8%	11%	15%	6%
PDA																			
Automotive/other						10%	20%	15%	15%	9%									
Total						100%	100%	100%	100%	100%	92%	93%	91%	91%	89%	88%	91%	90%	94%
By Territory																			
Hong Kong																			
Taiwan	55,924	41,154				9,722				4,582	8,391	11,035		6,348	4,719	2,984		6,218	
Japan	4,686	4,410												12,895				13,796	
China	666,344	383,875	504,940	614,891	520,452	88,416				127,452	166,421	166,706	154,312	159,276	137,387	112,079	111,710	175,106	
Korea	3,125	4,670	5,406	199,747	147,390	315				36,698	42,642	55,116	65,291	69,252	22,016	12,659	43,463	48,819	
Malaysia	55,015	36,358	21,890	66,827	50,887	4,352				19,175	14,927	19,793	12,932	13,940	15,106	12,895	8,946	7,858	
US	12,810	33,912	3,513	16,203	61,766	669				1,231	731	6,686	7,555		13,450	22,646	25,670		
ROW	1,634	2,937	59,283	47,262	71,127	2,086				3,933	6,348	6,341	18,178	14,360	25,241	21,930	28,758	6,267	
Total (,000)	799,538	507,316	602,993	956,476	897,730	105,560	0	0	0	193,071	239,460	265,677	258,268	276,071	217,919	185,193	218,547	258,064	0
By Channel																			
OEM & VARs	66.8%	58.0%	51.5%	75.3%	78.1%	49.8%	53.0%	55.0%	46.9%	68.4%	73.9%	80.2%	76.9%	77.2%	79.0%	79.2%	77.4%	72.5%	81.2%
Distributors	33.2%	42.0%	48.5%	24.7%	21.9%	50.2%	47.0%	45.0%	53.1%	31.6%	26.1%	19.8%	23.1%	22.8%	21.0%	20.8%	22.6%	27.5%	18.8%
By Customer																			
LG Innotec				17.6%	15.2%					15.1%	13.6%	17.6%		23.0%	11.9%	11.8%		17.2%	
WPI (HK distributor)	19.9%	22.4%	27.0%	13.8%	13.5%	28.7%				16.5%	14.5%	11.1%		14.0%		13.7%		16.0%	
unidentified OEM										12.9%					11.0%	10.7%			
unidentified OEM																10.2%			
unidentified Disti																11.6%			
Nam Tai (cell)																			
Primax (Motorola cell)																			
X-10 (security)																			
Creative Labs (PC)																			
Concord (DSC)																			
Aiptek (DSC)																			
Foundate/Lite-On (cell)																			
unidentified (cell)																			
unidentified (cell)																			
Foxconn	15.0%	10.4%	11.2%			13.0%													
Sanshin (OEM)																			
SiDa (distributor)																			
Top 5		59.5%	60.0%	55.0%	52.0%														

OmniVision Technologies

Company Summary

Products			Technology	Markets	Suppliers	Competitors
CMOS Image Sensors			Pixel Generation	Market	Image Sensor Fabs	CMOS
<u>Resolution</u> <i>(megapixels)</i>	<u>Optical Format</u> <i>(in inches)</i>	<u>Pixel Size</u> <i>(in microns)</i>	OmniBSI-2	PC/webcams	TSMC	Aptina
Native HD	1/13"	1.1	OmniBSI	Camera Phones	Powerchip	Samsung
High Res HD	1/10"	1.34	OmniPixel3-HS <i>(HS = high-sensitivity)</i>	Security		Sharp
16 Mp	1/9"	1.4	OmniPixel3	Automotive	Color Filter	Sony
14 Mp	1/7"	1.75	OmniPixel2	Medical	VisEra (TSMC joint vent.)	STMicro
12 Mp	1/6"	2.0	OmniPixel	Entertainment*		Toshiba
10 Mp	1/5"	2.2	CameraCubeChip	Total CMOS: 25%	Wafer Probe	
9 Mp	1/4"	2.5			KYEC	CCD
8 Mp	1/3"	3.0	Wafer Fab Line-Widths	Applications	THEPI	Panasonic
5 Mp	1/2"	3.18	65 nm	Cell Phone Handsets		Sharp
3 Mp		3.6	0.11-micron	Digital Still Cameras	Package Assembly	Sony
2 Mp (1080)		4.2	0.13-micron	Security Cameras	Lingsen	
1.3 Mp (780)		6.0	0.18-micron	Surveillance Cameras	Tong Hsing	
VGA			0.25-micron	PC Cameras	XnTec (investment)	
CIF				Video Games*	OSC (OVTI-owned)	
analog				Toys*		
				Automobiles		
				Tablets*		
				Digital TVs		
				Portable Media Players*		
				Camcorders		
				Medical		
CameraCubeChip						
Companion Chips						
USB controllers						
Host Processors						
image processing/compression						

Historical Valuation

Company	Ticker	Price 11/30/12	Trailing 12-month					
			Price/Earnings		Price/Sales		Price/Book	
			Current	Historical*	Current	Historical*	Current	Historical*
OmniVision	OVTI	\$15.09	17.3		0.8		1.1	
			Average	67.2	Average	2.8	Average	2.8
			High	1129.0	High	8.2	High	12.2
			Low	5.8	Low	0.5	Low	0.5

* weekly since 2000

The Company

Tokeneke Research is an independent research firm specializing in semiconductor industry business issues, providing fundamental research focused on US equities across all market capitalizations within the sector to investors. The company was founded in 2005 and is based in Connecticut.

The Offering

- *Monthly Newsletter*: A summarized review of noteworthy industry business developments, sales statistics, and sector equity market performance, as well as a near-term and annual outlook for sector business fundamentals and share prices. This report typically includes two pages of text and a handful of recurring charts and tables. It is intended for relatively broad-based distribution.
- *Industry Reports*: A publication offering insight and perspective to industry-wide, multi-year forecast updates; periodic sub-sector product type and/or end-market reviews; fundamental and valuation perspectives on sector equity relationships; and an industry introduction and overview. These are more detailed reports with varying shelf-lives, and are intended for narrow distribution to interested clients.
- *Company Reports*: Fundamental equity research including earnings estimates and customized valuation analysis.
- *Consulting*: Special projects of limited or extended duration, as well as periodic access of varying frequency.

Publications are distributed via email in .pdf format, unless otherwise requested. Client confidentiality and customized research exclusivity accommodated. Rates vary with the nature, duration, and terms of offerings.

My Background

I have an electrical engineering background, nearly 12 years of semiconductor industry experience, and was on Wall Street for nearly eight years where I was selected as the Best On The Street semiconductor analyst for 2002 by The Wall Street Journal, and third-rated Best of the Best across all sectors.

I obtained my undergraduate BS degree in electrical engineering from the University of Washington, and my MBA from Santa Clara University. My industry experience consists of nearly 12 years in various technical sales and marketing roles at four different semiconductor firms located in Silicon Valley beginning with Advanced Micro Devices in 1984, followed by two small start-up companies, and ending at Cirrus Logic where I supported the firm's Japanese market development. I joined Fahnstock & Co. as a senior semiconductor analyst in 1996 and was recruited by Needham & Co. in April 2000.

My formal coverage list as a sell-side analyst included the following equities: AMD, ALSC, ALTR, ARTI, ATML, CUBE, CY, ESST, GNSS, INTC, ISSI, LSI, MOSY, MU, OIIM, OVTI, RMTR, SIII, SMSC, STEC, SVTG, TDFX, TSRA, TXN, and ZRAN.

—**Dan K. Scovel**
Semiconductor Analyst

Tokeneke Research LLC

Rowayton, CT 06853

dscovel@tokenekeresearch.com

www.tokenekeresearch.com

203-554-4621

CONFIDENTIAL

Copyright © 2012 Tokeneke Research LLC. All rights reserved. This report is for information purposes only and does not constitute a solicitation or an offer to buy or sell any security or to participate in any investment or trading strategy. Opinions expressed in this report reflect the judgment of Tokeneke Research LLC on the topics addressed as of the date of the report, and are subject to change without notice. Tokeneke Research LLC makes every effort to use reliable and comprehensive information but makes no representation that the information in this report is accurate or complete, nor does it undertake to update or revise this report at any time of for any reason. This report contains forward-looking statements that involve risks and uncertainties, both known and unknown, as well as assumptions that, if they do not fully materialize or prove incorrect, could cause actual results to differ materially from those expressed or implied by such forward-looking statements. Actual results and trends may differ materially from historical results or those projected in any such forward-looking statements depending on a variety of factors. This report does not provide individually tailored investment advice and has been prepared without regard to the specific individual financial situation, objectives and needs of those who receive it. Securities discussed in this report may not be suitable for the reader. Tokeneke Research LLC and/or Dan Scovel may have a long or short position in the securities of a company or companies mentioned in this report and, at any time, may change that position. Tokeneke Research LLC accepts no liability whatsoever for any loss or damage of any kind arising out of the use of any part, or all, of this report. All company and product names mentioned in this report may be trademarks or registered trademarks of their respective holders and are used for identification purposes only. Reproduction or distribution of this report, even for internal distribution, is strictly prohibited unless specifically authorized by Tokeneke Research LLC