Tokeneke Research LLC **OVTI**

Semiconductor Industry Analysis and Insight *May 30, 2014*

OVTI F4Q Exceeds on Chinese Smartphone Strength

Despite Competition and US Weakness. Fine-tuning Estimates, Reiterate Buy.

Diluted Shares*(mil)*:	59.1
Market Cap*($mil)*:	$1,190
Avg Volume*(,000)*:	1,361
Net Cash/Share:	$7.03
Tangible Book/Share:	$16.01

Closing Price 5/29/14
$20.14
Recommendation/Target
Buy/$35 from $30

FTE April	**FY14 *act***	**FY15**	**FY16**
Revenue*($mil)*	$1,453.9	$1,482.3	$1,489.3
EPS *pf*	$2.24	$1.95	$2.00
Price/Sales	0.8	0.8	0.8
Price/EPS	9.0	10.3	10.1

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

Summary: April-ended F4Q revenue declined by -6% sequentially due to North American customer and seasonal market weakness, although significantly exceeded expectations due to strength from Chinese smartphone customers late in the quarter. Pro forma EPS of $0.40 exceeded the high-end of the range of estimates due to the revenue upside and revenue guidance for a gain of +9% to +21% similarly exceeded expectations, reflecting favorable seasonality and continuing Chinese smartphone strength despite the on-going North American decline. OVTI is well positioned to continue to benefit from the smartphone market shift to Chinese low-end and mid-range offerings. I am fine-tuning my estimates but raising my 12-month target price to $35 from $30 based on 1.5-times peer average sales, which have inflated from 1.2-times last quarter. I reiterate my Buy recommendation on the shares.

F4Q Review: Revenue declined by -6.0% sequentially to $331M due to adverse seasonality and North American customer weakness, but exceeded the high-end of guidance and expectations due to a surge of smartphone orders from China and Taiwan that has persisted since the last month of the quarter. Pro forma gross margin improved by 50 basis points to 20.4% as the ramp of new cost-effective devices and on-going manufacturing cost savings offset competitive price erosion. Gross margin was negatively impacted by -160 basis points basis points due to obsolete inventory write-offs, similar to the prior quarter. Pro forma EPS of $0.40 exceeded consensus by 13-cents and the high-end of the range by 8-cents primarily due to sales strength. Cash increased by $58M to $451M and inventory dropped by $71M to $271M. Cash includes receipt of $15M from the partial sale of an investment that went public in China late-F3Q: the book value for OmniVision's remaining 30.3M shares (or 13.3%) holding is $33.8M on the balance sheet, although this stake was worth $180M based on the prior day's closing price of WLCSP.

FYE April	**F4Q**					
pro forma, millions	**Estimate**	**Actual**	**EPS Impact**	**Guidance**	**Consensus**	**Range**
Revenue	$295.0	$331.0	*$0.12*	$275-305	$292.1	284.9-302.3
Revenue Growth	-16.2%	-6.0%		-21.9-13.4%	-17.0%	-19.1-14.1%
Gross Margin	20.5%	20.4%	*($0.01)*			
Op Expense	$43.3	$44.3	*($0.02)*			
Interest/Other Inc	$1.5	$4.1	*$0.05*			
Taxes	10.7%	12.7%	*($0.03)*	$2.0		
Shares	59.19	59.09				
Diluted EPS	$0.28	$0.40	***$0.12***	$0.19-$0.35	$0.27	$0.24-$0.32

Unit shipments fell by -6.1% to 201M from 214M the prior quarter due to seasonal weakness, ASPs were unchanged at $1.64 as a richer mix of higher resolution devices offset competitive price erosion, and OEM sales dropped to 78% from 80.3% of sales due to on-going weakness from that North American OEM. 2Mp+ sensors accounted for 52% of units up from 44% on ramping 13-, 8- and 4-Mp strength to smartphones; 1.3Mp decreased to 37% from 44% on North American weakness; and VGA fell to 11% from 12% amid an on-going shift to higher resolutions. Mobile phones accounted for 69% of sales up from 52% on strength from China and Taiwan; entertainment fell to 15% from 31% on tablet weakness due to adverse seasonality and North American declines; and notebook PCs/webcams softened to 5% from 7% due to both market and seasonal weakness. Automotive grew in the double-digits and security remains healthy as well, with the combination accounting for 11% of sales.

Growth Opportunities: OmniVision is well positioned to support Chinese handset OEMs serving mainstream and performance segments in China associated with the roll out of 4G LTE, as well as emerging markets migrating to 3G smartphones from feature phones in Asia, Africa and Latin America. Shipments include 13Mp, 8Mp, 5Mp, 2Mp and 1.3Mp resolution devices. The company's new PureCel technology offers better performance including lower power, as well as lower cost: 13Mp and 8Mp are ramping, the ¼-inch 5Mp has been launched, and a 2Mp is forthcoming. Wafer-level technology is well suited for low-cost smartphones, and its infra-red technology offering depth of field is being used for machine vision applications including eye tracking, gesture recognition and virtual reality in automotive, consumer and mobile markets—including wearables such as glasses and watches. Its product diversification into liquid crystal on silicon (LCOS) displays was previously embraced by Google for its Tango project, among others. Management remains very bullish for the company's prospects in automotive and IP security applications. Nevertheless, challenges persist from competitive price pressure and fading sales to North America.

Fine-tuning Estimates: Management guidance for F1Q includes: sales of $360-400M; operating expense gains of $2-4M; GAAP and pro forma tax rates in the mid-teens and 10%, respectively; GAAP EPS of $0.29-$0.49; and pro forma EPS of $0.43-$0.63. My F1Q estimate is slightly above the mid-point of guidance and higher revenue and operating expenses trickle through my model for FY15, although I am tempering my revenue outlook for FY16.

FYE April	**F1Q**		**FY15**		**FY16**	
pro forma, millions	**Previous**	**Update**	**Previous**	**Update**	**Previous**	**Update**
Revenue	$295.0	$385.0	$1,429.8	$1,482.3	$1,577.5	$1,489.3
Revenue Growth	0.0%	16.3%	0.8%	1.9%	10.3%	0.5%
Gross Margin	20.8%	20.8%	21.4%	21.3%	22.0%	22.0%
Op Expense	$44.7	$47.0	$183.1	$192.4	$194.8	$198.5
Interest/Other Inc	$1.5	$1.5	$6.0	$6.0	$6.0	$6.0
Taxes	$2.0	$3.5/10%	11.0%	10.0%	11.0%	10.0%
Shares	59.47	59.32	59.90	59.75	61.00	60.89
Diluted EPS	$0.27	$0.52	$1.91	$1.95	$2.31	$2.00

Valuation Still Attractive: Valuation tables for OVTI are shown on Page 7 of this report. The bottom table, Historical Valuation, captures the weekly averages since its IPO of trailing 12-month price-earnings, price-sales, and price-book ratios. Unfortunately, these historical averages are unrealistically high given the nature of equity markets at this time. The top table, Relative Valuation, measures OVTI against a set of peers in the current equity market environment and is considerably more relevant, in my opinion.

My first preference would be to choose a set of fabless, ASSP (application-specific standard product) semiconductor companies with comparable sales, margin, market cap, and historical average price-sales ratios that would look very much like the peer group I chose for SIMG that includes AMCC, ENTR, LSCC, MCRL, PLXT and SIMO. This would support an argument to value OVTI at 2-times sales and price target of $45. Unfortunately, I don't think most investors would buy such an argument primarily due to the depressed gross margin level at OVTI, but also due to the extreme magnitude of potential share price upside. Nevertheless, I reserve the right to introduce such a methodology in the future when OVTI's gross margin—and possibly its share price—recover to higher levels.

Instead, I compiled a set of comparable peers whose current numerical magnitudes of sales, gross margin, market cap, and historical average price-sales ratios are more closely aligned. This was not a trivial exercise, and I could not come up with any peers that satisfied more than three out of those four criteria. The set of peers I generated as noted on Page 7 includes CODE, CY, DIOD, IRF, MX, RFMD and TQNT. I can justify this group on a quantitative basis at a very robust level. However, qualitatively I doubt I could dream up a more eclectic and motley crew in terms of product offerings, business models, corporate strategies, and corporate and product evolutionary lifecycles.

OVTI remains inexpensive any way that I look at it: price-sales, price-earnings, and even price-book where it is currently trading at 1.2-times book value. It is trading as the lowest or second lowest of both price-earnings and price-sales ratios of its peers across all time periods identified in the table. I am raising my 12-month target price to $35 from $30 based on just under peer-average 1.5-times forward sales, up from 1.2-times sales due to equity market valuation inflation over the last three months. Upside potential continues to significantly exceed downside risk at current price levels, in my opinion, and I continue to recommend OVTI as a Buy.

pro forma EPS	**F1Q**	**FY15**	**FY16**
Tokeneke-revised	*$0.52*	*$1.95*	$2.00
Tokeneke-previous	$0.27	$1.91	$2.31
Consensus-previous	$0.29	$1.33	
Highest Est-previous	$0.33	$1.55	
Lowest Est-previous	$0.25	$1.09	

Revenue (11 est)	**F1Q**	**FY15**	**FY16**
Tokeneke-revised	*$385.0*	*$1,482.3*	*$1,489.3*
Tokeneke-previous	$295.0	$1,429.8	$1,577.5
Consensus-previous	$304.9	$1,320.0	
Highest Est-previous	$320.0	$1,530.0	
Lowest Est-previous	$298.7	$1,210.0	

—Dan K. Scovel
Semiconductor Analyst

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Income Statement **www.ovt.com**

dollars in thousands, except per share data

fiscal year ends April

				FY2014 act					FY2015 est					FY2016				
	FY2011	FY2012	FY2013	Q1	Q2	Q3	Q4	FY2014	Q1	Q2	Q3	Q4	FY2015	Q1	Q2	Q3	Q4	FY2016
Revenue	956,476	897,730	1,407,929	373,688	397,249	352,023	330,969	1,453,929	385,000	385,000	385,000	327,250	1,482,250	327,250	382,883	421,171	357,995	1,489,298
COGS	676,494	646,782	1,159,993	307,555	321,398	281,892	263,400	1,174,245	304,920	303,380	302,225	255,910	1,166,435	255,255	298,648	328,513	279,236	1,161,653
Gross Profit	279,982	250,948	247,936	66,133	75,851	70,131	67,569	279,684	80,080	81,620	82,775	71,341	315,816	71,995	84,234	92,658	78,759	327,646
R&D	78,964	97,368	97,001	23,908	25,187	26,660	27,007	102,762	28,357	29,350	29,350	29,350	116,407	29,350	30,377	30,377	30,377	120,481
SG&A	54,491	52,858	59,462	14,470	14,904	14,360	14,963	58,697	16,310	16,799	16,799	16,799	66,707	16,799	17,303	17,303	17,303	68,708
Stk Crg/Write-off	774	9,286	9,286	2,321	2,322	2,321	2,322	9,286	2,322	2,322	2,322	2,322	9,288	2,322	2,322	2,322	2,322	9,288
Operating Expenses	134,229	159,512	165,749	40,699	42,413	43,341	44,292	170,745	46,989	48,471	48,471	48,471	192,401	48,471	50,002	50,002	50,002	198,477
Operating Income	145,753	91,436	82,187	25,434	33,438	26,790	23,277	108,939	33,091	33,149	34,304	22,870	123,414	23,524	34,232	42,656	28,757	129,169
Interest/Other	2,768	(1,107)	348	(608)	3,127	24,409	4,105	31,033	1,500	1,500	1,500	1,500	6,000	1,500	1,500	1,500	1,500	6,000
Pre-tax Income	148,521	90,329	82,535	24,826	36,565	51,199	27,382	139,972	34,591	34,649	35,804	24,370	129,414	25,024	35,732	44,156	30,257	135,169
Taxes	151	4,464	4,645	(6,901)	1,630	10,774	3,477	8,980	3,459	3,465	3,580	2,437	12,941	2,502	3,573	4,416	3,026	13,517
Minority Interest	32	9,643	1,140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Income	148,402	95,508	79,030	31,727	34,935	40,425	23,905	130,992	31,132	31,184	32,224	21,933	116,473	22,522	32,159	39,740	27,231	121,652
EPS-basic	$2.68	$1.69	$1.48	$0.58	$0.63	$0.72	$0.43	$2.36	$0.55	$0.55	$0.57	$0.38	$2.05	$0.39	$0.56	$0.68	$0.47	$2.10
Shares-basic	55,324	56,667	53,529	54,611	55,584	55,913	56,042	55,538	56,322	56,604	56,887	57,171	56,746	57,457	57,744	58,033	58,323	57,889
EPS-diluted	$2.49	$1.60	$1.41	$0.55	$0.60	$0.69	$0.40	$2.24	$0.52	$0.52	$0.54	$0.36	$1.95	$0.37	$0.53	$0.65	$0.44	$2.00
Shares-diluted	59,664	59,510	56,094	57,509	58,649	58,936	59,088	58,546	59,322	59,604	59,887	60,171	59,746	60,457	60,744	61,033	61,323	60,889
GAAP EPS	$2.11	$1.13	$0.71	$0.42	$0.47	$0.54	$0.26	$1.70	$0.34	$0.34	$0.35	$0.19	$1.23	$0.20	$0.34	$0.46	$0.37	$1.27
Margin Analysis																		
Gross Margin	29.3%	28.0%	17.6%	17.7%	19.1%	19.9%	20.4%	19.2%	20.8%	21.2%	21.5%	21.8%	21.3%	22.0%	22.0%	22.0%	22.0%	22.0%
R&D	8.3%	10.8%	6.9%	6.4%	6.3%	7.6%	8.2%	7.1%	7.4%	7.6%	7.6%	9.0%	7.9%	9.0%	7.9%	7.2%	8.5%	8.1%
SG&A	5.7%	5.9%	4.2%	3.9%	3.8%	4.1%	4.5%	4.0%	4.2%	4.4%	4.4%	5.1%	4.5%	5.1%	4.5%	4.1%	4.8%	4.6%
Stk Chrg/Write-off	0.1%	1.0%	0.7%	0.6%	0.6%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.7%	0.6%	0.7%	0.6%	0.6%	0.6%	0.6%
Operating Income	15.2%	10.2%	5.8%	6.8%	8.4%	7.6%	7.0%	7.5%	8.6%	8.6%	8.9%	7.0%	8.3%	7.2%	8.9%	10.1%	8.0%	8.7%
Pre-tax Income	15.5%	10.1%	5.9%	6.6%	9.2%	14.5%	8.3%	9.6%	9.0%	9.0%	9.3%	7.4%	8.7%	7.6%	9.3%	10.5%	8.5%	9.1%
Tax Rate	0.1%	4.9%	5.6%	-27.8%	4.5%	21.0%	12.7%	6.4%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Net Income	15.5%	10.6%	5.6%	8.5%	8.8%	11.5%	7.2%	9.0%	8.1%	8.1%	8.4%	6.7%	7.9%	6.9%	8.4%	9.4%	7.6%	8.2%
Qtr-to-Qtr Growth																		
Revenue				11.1%	6.3%	-11.4%	-6.0%		16.3%	0.0%	0.0%	-15.0%		0.0%	17.0%	10.0%	-15.0%	
Operating Expenses				2.0%	4.2%	2.2%	2.2%		6.1%	3.2%	0.0%	0.0%		0.0%	3.2%	0.0%	0.0%	
Operating Income				29.2%	31.5%	-19.9%	-13.1%		42.2%	0.2%	3.5%	-33.3%		2.9%	45.5%	24.6%	-32.6%	
Pre-tax Income				25.3%	47.3%	40.0%	-46.5%		26.3%	0.2%	3.3%	-31.9%		2.7%	42.8%	23.6%	-31.5%	
Net Income				81.7%	10.1%	15.7%	-40.9%		30.2%	0.2%	3.3%	-31.9%		2.7%	42.8%	23.6%	-31.5%	
EPS				78.6%	8.0%	15.2%	-41.0%		29.7%	-0.3%	2.8%	-32.3%		2.2%	42.1%	23.0%	-31.8%	
Year-to-Year Growth																		
Revenue	58.6%	-6.1%	56.8%	44.8%	1.8%	-16.9%	-1.6%	3.3%	3.0%	-3.1%	9.4%	-1.1%	1.9%	-15.0%	-0.6%	9.4%	9.4%	0.5%
Operating Expenses	13.7%	18.8%	3.9%	-1.8%	-2.2%	5.6%	11.0%	3.0%	15.5%	14.3%	11.8%	9.4%	12.7%	3.2%	3.2%	3.2%	3.2%	3.2%
Operating Income	387%	-37.3%	-10.1%	188%	49.9%	-14.6%	18.2%	32.6%	30.1%	-0.9%	28.0%	-1.7%	13.3%	-28.9%	3.3%	24.3%	25.7%	4.7%
Pre-tax Income	340%	-39.2%	-8.6%	203%	59.0%	62.3%	38.2%	69.6%	39.3%	-5.2%	-30.1%	-11.0%	-7.5%	-27.7%	3.1%	23.3%	24.2%	4.4%
Net Income	374%	-35.6%	-17.3%	174%	88.3%	28.5%	36.9%	65.7%	-1.9%	-10.7%	-20.3%	-8.3%	-11.1%	-27.7%	3.1%	23.3%	24.2%	4.4%
EPS	320%	-35.5%	-12.2%	163%	80.5%	23.1%	31.0%	58.8%	-4.9%	-12.2%	-21.6%	-9.9%	-12.9%	-29.0%	1.2%	21.0%	21.8%	2.5%

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OmniVision Technologies

Financial Summary

(dollars in thousands)

Fiscal year ends April

	FY11	FY12	FY13	FY14	4QF13	1QF14	2QF14	3QF14	4QF14
Assets									
Cash and equivalents	379,379	290,492	190,171	297,952	190,171	196,748	207,171	308,927	297,952
Short-term investments	87,505	40,515	22,164	152,993	22,164	43,773	58,427	84,113	152,993
Net accounts receivable	142,606	107,793	166,517	172,472	166,517	174,529	170,871	134,706	172,472
Quick Assets	609,490	438,800	378,852	623,417	378,852	415,050	436,469	527,746	623,417
Inventories	106,873	291,340	430,315	270,935	430,315	426,556	390,275	342,153	270,935
Other	14,608	12,625	16,010	11,549	16,010	9,874	10,728	25,790	11,549
Current Assets	730,971	742,765	825,177	905,901	825,177	851,480	837,472	895,689	905,901
Property, plant and eqt, net	115,446	144,792	160,630	153,792	160,630	160,310	157,400	156,208	153,792
Long-term investments	104,616	128,940	139,746	154,409	139,746	145,066	145,643	154,044	154,409
Goodwill and intangibles	71,014	79,255	67,031	76,444	67,031	63,860	60,956	79,957	76,444
Other assets	12,111	7,205	34,430	32,529	34,430	37,397	37,413	32,964	32,529
Total Assets	1,034,158	1,102,957	1,227,014	1,323,075	1,227,014	1,258,113	1,238,884	1,318,862	1,323,075
Liabilities and Shareholders Equity									
Current portion of long-term debt	4,323	3,146	3,769	3,802	3,769	3,791	3,809	3,830	3,802
Accounts payable	102,519	159,860	188,261	142,012	188,261	180,858	127,019	149,016	142,012
Deferred revenue	16,594	10,115	15,493	25,783	15,493	24,399	24,791	20,252	25,783
Other liabilities	25,483	36,403	43,178	34,275	43,178	43,662	42,271	59,879	34,275
Current Liabilities	148,919	209,524	250,701	205,872	250,701	252,710	197,890	232,977	205,872
Long-term debt	41,916	39,337	35,709	32,030	35,709	35,652	35,586	32,246	32,030
Deferred tax liability/other	91,998	93,217	95,395	98,316	95,395	86,558	87,457	90,364	98,316
Total Liabilities	282,833	342,078	381,805	336,218	381,805	374,920	320,933	355,587	336,218
Minority interest	0	0	0	0	0	0	0	0	0
Common stock	533,847	578,978	620,406	664,679	620,406	630,894	640,508	655,979	664,679
Retained earnings	394,735	460,584	503,486	598,483	503,486	526,547	552,850	583,410	598,483
Other/Treasury Stock	(177,257)	(278,683)	(278,683)	(276,305)	(278,683)	(274,248)	(275,407)	(276,114)	(276,305)
Total Shareholders Equity	751,325	760,879	845,209	986,857	845,209	883,193	917,951	963,275	986,857
Total Liabilities and Equity	1,034,158	1,102,957	1,227,014	1,323,075	1,227,014	1,258,113	1,238,884	1,318,862	1,323,075
Sales and Income									
Revenue	956,476	897,736	1,407,929	1,453,929	336,215	373,688	397,249	352,023	330,969
COGS	678,459	649,719	1,163,815	1,178,207	277,486	308,527	322,383	282,891	264,406
Net income	124,482	65,849	42,902	94,997	8,922	23,061	26,303	30,560	15,073
Other									
Capital Expenditures	10,313	24,186	35,323		5,415	7,100	2,401	3,653	
Depreciation and Amortization	20,564	29,771	32,524		6,766	7,349	8,182	8,220	
Shares (weighted average diluted)	59,664	58,233	53,671	56,043	54,061	57,509	55,732	56,186	56,882
Employees (units)	1,465	1,796	2,057						
Stock Repurchased			0						
Ratios									
Liquidity									
Quick Ratio	4.09	2.09	1.51	3.03	1.51	1.64	2.21	2.27	3.03
Current Ratio	4.91	3.55	3.29	4.40	3.29	3.37	4.23	3.84	4.40
Leverage									
Debt Ratio	0.27	0.31	0.31	0.25	0.31	0.30	0.26	0.27	0.25
Long-term Debt/Capital	0.13	0.12	0.11	0.10	0.11	0.10	0.10	0.09	0.10
Asset Management									
Fixed Asset Turnover	8.07	6.90	9.22	9.25	8.33	9.31	10.00	8.98	8.54
Total Asset Turnover	1.04	0.84	1.21	1.14	1.12	1.20	1.27	1.10	1.00
Recievables DSO	54	43	43	43	45	42	39	34	47
Inventory Days	57	161	133	83	140	124	109	109	92
Inventory Turnover	5.63	3.26	3.23	3.36	2.76	2.88	3.16	3.09	3.45
Revenue/Employee	656	551	731	707					
Profitability									
Gross Margin	29.1%	27.6%	17.3%	19.0%	17.5%	17.4%	18.8%	19.6%	20.1%
Net Margin	13.0%	7.3%	3.0%	6.5%	2.7%	6.2%	6.6%	8.7%	4.6%
Return on Assets	13.6%	6.2%	3.7%	7.5%	3.0%	7.4%	8.4%	9.6%	4.6%
Return on Equity	19.4%	8.7%	5.3%	10.4%	4.3%	10.7%	11.7%	13.0%	6.2%
Per Share Data									
Book Value/Share	$12.59	$13.07	$15.75	$17.61	$15.63	$15.36	$16.47	$17.14	$17.35
Tangible Book/Share	$11.40	$11.71	$14.50	$16.24	$14.39	$14.25	$15.38	$15.72	$16.01
Cash/Share	$7.83	$5.68	$3.96	$8.05	$6.51	$6.70	$7.38	$9.74	$10.64
Net Cash/Share	$7.05	$4.95	$3.22	$7.41	$3.20	$3.50	$4.06	$6.35	$7.30
Earnings/Share	$2.09	$1.13	$0.80	$1.70	$0.17	$0.40	$0.47	$0.54	$0.26

OmniVision Technologies

Sales Analysis

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY2011				FY2012				FY2013				FY14			
								1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Product Metrics																							
Units Shipped (mil)	425.0	327.0	475.0	682.0	614.0	855.0	860.0	134.0	185.0	194.0	169.0	171.0	153.0	143.0	147.0	166.0	249.0	252.0	188.0	208.0	237.0	214.0	201.0
Unit growth (calculated)	70.0%	-23.1%	45.3%	43.6%	-10.0%	39.3%	0.6%	7.2%	38.1%	4.9%	-12.9%	1.2%	-10.5%	-6.5%	2.8%	12.9%	50.0%	1.2%	-25.4%	10.6%	13.9%	-9.7%	-6.1%
ASP	$1.88	$1.55	$1.27	$1.40	$1.46	$1.65	$1.69	$1.44	$1.29	$1.37	$1.53	$1.61	$1.42	$1.29	$1.48	$1.55	$1.56	$1.68	$1.79	$1.79	$1.67	$1.64	$1.64
ASP change		-17.5%	-18.2%	10.5%	4.3%	12.6%	2.7%	14.3%	-10.4%	6.2%	11.7%	5.2%	-11.8%	-9.2%	14.7%	4.7%	0.6%	7.7%	6.5%	0.0%	-6.7%	-1.8%	0.0%
VGA and smaller		71.5%	66.6%	54.6%	52.6%	20.8%	12.8%	57%	60%	56%	45%	45%	53%	59%	55%	32%	21%	16%	17%	14%	14%	12%	11%
1.3-megapixel		12.8%	9.9%	12.8%	18.5%	40.5%	42.8%	10%	12%	11%	18%	18%	23%	19%	14%	31%	48%	45%	33%	39%	50%	44%	37%
2-megapixel and greater		17.8%	23.2%	32.6%	28.8%	38.7%	44.4%	33%	28%	33%	37%	37%	24%	22%	31%	37%	31%	39%	50%	47%	36%	44%	52%
By Market																							
Cell Phone				65.0%	56.0%	59.0%		66%	66%	72%	65%	62%	60%	52%	52%	48%	59%	61%	65%	63%	60%	52%	69%
Digital Camera																							
Security/Surveillance																							
Entertainment								6%	11%	10%	11%	14%	20%	28%	28%	27%	29%	26%	17%	22%	25%	31%	15%
PC Camera/notebook								19%	15%	11%	15%	15%	9%	8%	11%	15%	6%	7%	8%	7%	5%	7%	5%
PDA																							
Automotive/other								9%															
Total								100%	92%	93%	91%	91%	89%	88%	91%	90%	94%	94%	90%	92%	90%	90%	89%
By Territory																							
UK 2Q14, Sing 3Q																					4521	6325	
Taiwan	55,924	41,154						4,582	8,391	11,035		6,348	4,719	2,984		6,218	7,474	6,210		8,191			
Japan	4,686	4,410	7,961	11,546	46,108	57,604						12,895				13,796	18,626	15,246	9,936	15,511	28,259	33,006	
China	666,344	383,875	504,940	614,891	520,452	955,378		127,452	166,421	166,706	154,312	159,276	137,387	112,079	111,710	175,106	265,433	278,923	235,916	278,911	305,918	259,935	
Korea	3,125	4,670	5,406	199,747	147,390	275,105		36,698	42,642	55,116	65,291	69,252	22,016	12,659	43,463	48,819	64,954	96,163	65,169	56,137	47,624	36,466	
Malaysia	55,015	36,358	21,890	66,827	50,887	60,243		19,175	14,927	19,793	12,932	13,940	15,106	12,895	8,946	7,858	27,839	15,364	9,182				
US	12,810	33,912	3,513	16,203	61,766	3,997		1,231	731	6,686	7,555		13,450	22,646	25,670				3,997	1,421	1,340	1,146	
ROW	1,634	2,937	59,283	47,262	71,127	55,602		3,933	6,348	6,341	18,178	14,360	25,241	21,930	28,758	6,267	5,811	11,607	31,917	13,517	9587	15145	
Total (,000)	799,538	507,316	602,993	956,476	897,730	1,407,929	1,453,929	193,071	239,460	265,677	258,268	276,071	217,919	185,193	218,547	258,064	390,137	423,513	356,117	373,688	397,249	352,023	
By Channel																							
OEM & VARs	66.8%	58.0%	51.5%	75.3%	78.1%	81.2%		68.4%	73.9%	80.2%	76.9%	77.2%	79.0%	79.2%	77.4%	72.5%	85.2%	85.2%	78.4%	81.6%	84.1%	80.3%	78.0%
Distributors	33.2%	42.0%	48.5%	24.7%	21.9%	18.8%		31.6%	26.1%	19.8%	23.1%	22.8%	21.0%	20.8%	22.6%	27.5%	14.8%	14.8%	21.6%	18.4%	15.9%	19.7%	22.0%
By Customer																							
LG Innotec				17.6%	15.2%	18.0%		15.1%	13.6%	17.6%		23.0%	11.9%	11.8%		17.2%	15.8%	21.8%					
WPI *(HK distributor)*	19.9%	22.4%	27.0%	13.8%	13.5%	11.7%		16.5%	14.5%	11.1%		14.0%		13.7%		16.0%							
unidentified OEM								12.9%					11.0%	10.7%			14.7%	13.9%		12.4%	11.7%	13.5%	
unidentified OEM														10.2%			12.6%	12.2%		11.5%	10.8%	13.4%	
unidentified Disti														11.6%						11.4%	10.8%		
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%			10.7%																	
Cowell						10.3%																	
Sanshin *(OEM)*																							
SiDa *(distributor)*																							
Top 5		59.5%	60.0%	55.0%	52.0%	57.7%											58.6%				56.0%		

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OmniVision Technologies

Company Summary

Products

CMOS Image Sensors

Resolution *(megapixels)*	***Optical Format*** *(in inches)*	***Pixel Size*** *(in microns)*
Native HD	1/18"	1.1
High Res HD	1/13"	1.34
16 Mp	1/10"	1.4
14 Mp	1/9"	1.75
12 Mp	1/7"	2.0
10 Mp	1/6"	2.2
9 Mp	1/5"	2.5
8 Mp	1/4"	3.0
5 Mp	1/3"	3.18
3 Mp	1/2.3"	3.6
2 Mp *(1080)*		4.2
1.3 Mp *(720)*		6.0
VGA		
CIF		
analog		

CameraCubeChip

Companion Chips
- USB controllers
- Host Processors
  - image processing/compression

Technology

Pixel Generation
- PureCel
- OmniBSI-2
- OmniBSI
- OmniPixel3-HS
- *(HS = high-sensitivity)*
- OmniPixel3
- OmniPixel2
- OmniPixel
- CameraCubeChip

Wafer Fab Line-Widths
- 65 nm
- 0.11-micron
- 0.13-micron
- 0.18-micron
- 0.25-micron

Markets

Market	***CY11 Share***
PC/webcams	44%
Camera Phones	21%
Security	47%
Automotive	23%
Medical	44%
Entertainment*	57%
Total CMOS:	***25%***

Applications
- Cell Phone Handsets
- Digital Still Cameras
- Security Cameras
- Surveillance Cameras
- PC Cameras
- Video Games*
- Toys*
- Automobiles
- Tablets*
- Digtal TVs
- Portable Media Players*
- Camcorders
- Medical

Suppliers

Image Sensor Fabs
- TSMC
- Powerchip

Color Filter
- VisEra *(TSMC joint vent.)*

Wafer Probe
- KYEC
- THEPI

Package Assembly
- Lingsen *(ceramic)*
- Tong Hsing *(ceramic)*
- XinTec *(investment)(CSP)*
- OSC *(OVTI-owned)*

Competitors

CMOS
- Aptina
- Samsung
- Sharp
- Sony
- STMicro
- Toshiba

CCD
- Panasonic
- Sharp
- Sony

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OmniVision

Valuation

Relative Valuation

Company	Ticker	Price 5/29/14	52-Week Low	52-Week High	CY EPS 2012	CY EPS 2013	CY EPS 2014	CY EPS 2015	CY P/E 2012	CY P/E 2013	CY P/E 2014	CY P/E 2015	Shares (mil)	CAP ($ mil)	Price-Sales TTM	Price-Sales Cur FY	Price-Sales Nxt FY	FY Ends
OmniVision *	**OVTI**	**20.14**	**13.55**	**20.48**	**1.30**	**2.15**	**1.98**	**1.91**	**15.5**	**9.4**	**10.2**	**10.5**	**59**	**1,190**	**0.8**	**0.8**	**0.8**	Apr
Spansion	CODE	19.26	9.70	19.37	0.99	0.76	1.26	1.90	19.5	25.3	15.3	10.1	60	1,151	1.1	0.9	0.8	Dec
Cypress Semiconductor	CY	10.31	8.61	13.23	0.55	0.40	0.52	0.68	18.7	25.8	19.8	15.2	166	1,710	2.4	2.3	2.1	Dec
Diodes	DIOD	27.89	19.26	28.73	0.56	1.06	1.47	1.90	49.8	26.3	19.0	14.7	48	1,339	1.6	1.5	1.1	Dec
International Rectifier	IRF	26.81	20.24	28.27	-1.01	0.09	1.27	1.66	NM	NM	21.1	16.2	73	1,949	1.8	1.8	1.6	Jun
MagnaChip	MX	12.54	12.50	23.89	2.23	1.29	2.17	N/A	5.6	9.7	5.8	NM	37	470	0.5	0.6	0.6	Dec
RF Micro Devices	RFMD	9.45	4.50	9.77	0.10	0.40	0.68	0.86	94.5	23.6	13.9	11.0	290	2,736	2.4	2.1	2.0	Mar
TriQuint	TQNT	15.62	6.66	16.19	0.18	0.08	0.52	0.70	86.8	NM	30.0	22.3	164	2,568	2.9	2.7	2.4	Dec
Average									45.8	22.2	17.8	14.9			1.8	1.7	1.5	

** Tokeneke estimate*

Source: consensus as of 5/29/14

Historical Valuation

Company	Ticker	Price 5/29/14	Trailing 12-month Price/Earnings Current	Price/Earnings Historical*	Price/Sales Current	Price/Sales Historical*	Price/Book Current	Price/Book Historical*
OmniVision	OVTI	$20.14	9.0		0.8		1.2	
			Average	62.0	**Average**	2.5	**Average**	2.6
			High	1129.0	**High**	8.2	**High**	12.2
			Low	4.6	**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.
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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 Fahnestock & 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.

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