

NanoString

1Q14 Review: Solid Quarter With 200+ nCounters Installed; Prosigna Ramp and 3rd Gen Launch In Focus

NanoString (NSTG) reported 1Q14 revenues of \$8.8M, which came in slightly above JPMe and consensus, while reiterating the 2014 outlook, with sales of \$45-50M range pointing to a back-end loaded year (pending a favorable MolDX reimbursement decision and potential inclusion in NCCN guidelines). We continue to see growth opportunities for U.S. Prosigna traction and nCounter system adoption, as well as margin expansion going forward and maintain our Overweight rating, while modest DCF adjustments result in our December 2014 PT going to \$20.

- Strong sales and instrument placements in the quarter.** 1Q14 revenues of ~\$8.8M came in slightly better than JPMe/consensus of \$8.4M/\$8.6M, driven by strong instrument placements, surpassing the +200 installed base milestone. Instrument revenue in the quarter was \$3.4M (+110% y/y), including FLEX configurations on 40% of placements, while consumable revenue came in at \$4.8M (+29% y/y), as the company has maintained ~\$100K pull-through per system. Moving down the P&L, adjusted gross margins increased to 50.6% from 49.2% (vs. JPMe of 51.5%) as a ~10% increase in instrument revenues as a percent of total sales partially offset consumable margin improvement, while we continue to expect gross margin expansion, as the Prosigna ramp continues and consumables constitute a greater portion of mix over time. On the bottom line, adjusted EPS (-\$0.56) came in above JPMe (-\$0.92) and consensus (-\$0.75), due to higher gross margins and lower than expected R&D and SG&A expenses.
- Traction from U.S. Prosigna launch and products pipeline updates...** During the quarter, Prosigna revenues reached ~\$61K, as six labs have now launched the assay, with another 13 having the enabled system installed and preparing to launch. The company placed three additional Prosigna enabled systems in the U.S., received orders for two more OUS, and on boarded ~15 sales reps during the quarter to accommodate growing demand. Turning to new products, NanoString also launched the nCounter Elements chemistry during the quarter, which allows translational researchers and clinical labs to independently develop custom multiplex assays. The company also launched the new PanCancer Pathways Panel, which allows researchers to investigate cancer biology across 770 different genes in all major cancer pathways. Management also noted on the call that the company is still on track to launch its 3rd generation benchtop system in 2H14.

NanoString Technologies, Inc. (NSTG;NSTG US)

FYE Dec	2013A	2014E (Prev)	2014E (Curr)	2015E (Prev)	2015E (Curr)
Revenue (\$ mn)					
Q1 (Mar)	6	8	9A	15	16
Q2 (Jun)	7	9	10	17	19
Q3 (Sep)	8	12	13	19	20
Q4 (Dec)	10	16	17	26	27
FY	31	45	49	77	83

Source: Company data, Bloomberg, J.P. Morgan estimates.

Overweight

NSTG, NSTG US

Price: \$14.26

▼ **Price Target: \$20.00**
Previous: \$22.00

Life Science Tools & Diagnostics

Tycho W. Peterson ^{AC}

(1-212) 622-6568

tycho.peterson@jpmorgan.com

Bloomberg JPMA PETERSON <GO>

Jordan McKinnie

(1-212) 622-7059

jordan.m.mckinnie@jpmorgan.com

Tejas Savant

(1-212) 622-5650

tejas.savant@jpmorgan.com

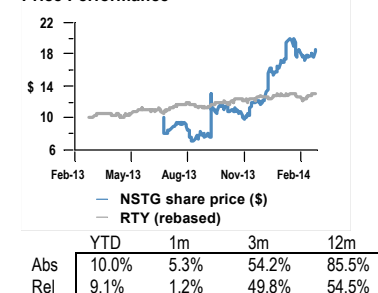
Patrick Donnelly

(1-212) 622-9735

patrick.donnelly@jpmorgan.com

J.P. Morgan Securities LLC

Price Performance



Company Data

Price (\$)	14.26
Date Of Price	07-May-14
52-week Range (\$)	22.44-7.01
Market Cap (\$ mn)	142.60
Fiscal Year End	Dec
Shares O/S (mn)	10
Price Target (\$)	20.00
Price Target End Date	31-Dec-14

See page 8 for analyst certification and important disclosures.

J.P. Morgan does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

- **Clinical validation update and reimbursement developments:** Turning to clinical validation, NSTG has now been included in over 400 peer-reviewed publications generated by customers, including two new papers describing a performance of Prosigna published during the first quarter, which should support reimbursement and guideline inclusion. In addition, the company will also be featured in at least one oral presentation and three posters at ASCO in June, while its collaborators currently take two additional manuscripts through peer-review. On the call, management noted that reimbursement for genetic tests continues to be a gating factor for adoption in Europe and expects to continue reimbursement dialogues while its impact study in Germany should reach full enrollment by the end of the year, and the company launches a third study in the EU towards year-end. Finally on the reimbursement front, the company has submitted its application for inclusion in CMS's MolDX program and expects to receive a positive coverage decision as early as 3Q14.
- **2014 guidance reiterated; maintain Overweight rating.** Management reiterated 2014 guidance for revenues in the range of \$45-50M (+43-59% y/y) and an operating loss of ~\$40-50M, which falls in the range of consensus estimates. The company continues to expect a backend loaded year as a result of the MolDX/guideline decisions in 2H14 which should bolster the U.S. Prosigna ramp. Gross margins are expected to be on the lower end of its original ~55-58% range, and operating expenses in the \$70-75M range should increase throughout the year accounting for new sales hires and investments in the bench-top system. We continue to see strong growth opportunities for NSTG and thus maintain our Overweight rating, while adjusting our DCF-based 2014 price target to \$20, based on modest changes to our model and DCF.

Figure 1: NSTG: 1Q14 Variance

	1Q13A		1Q14E				1Q14A				Variance vs. JPM Est.	
	Actual		JPM Estimate	Consensus			Actual	Change y/y				
	\$ M	%	\$ M	%	\$ M	%	\$ M	%	Δ \$	Δ margin	\$ M	%
Molecular Diagnostics	0.0		0.4				0.1				(0)	
Life Sciences	5.7		8.0				8.7				1	
Total Revenue	5.7		8.4	8.6			8.8	54.2%			0	
Gross Profit	2.8	49.2%	4.3	51.5%			4.4	50.6%	58.4%	135 bp	0	-91 bp
SG&A	(6.1)	107.9%	(13.7)	162.9%			(10.7)	122.0%	74.2%	1405 bp	3	-4095 bp
R&D	(3.1)	53.9%	(7.1)	83.9%			(4.7)	54.1%	54.7%	18 bp	2	-2982 bp
Operating Income	(6.4)	-112.6%	(16.5)	-195.4%			(11.0)	-125.5%	71.8%	-1287 bp	5	6995 bp
EBITDA	(6.0)	-105.4%	(16.1)	-190.9%			(10.6)	-121.4%	77.5%	-1597 bp	5	6947 bp
Pretax Income	(3.4)		(16.4)				(10.5)		212.7%		6	
Income Tax	0.0	0.0%	0.0	0.0%			0.0	0.0%		0 bp	0	0 bp
Adj. Net Income, excl. ESO	(5.5)	-96.3%	(15.8)	-186.8%			(9.5)	-108.0%	72.9%	-1172 bp	6	7884 bp
Diluted Shares	9.2M		17.1				16.9M		84.2%		-0.2M	
GAAP EPS	(\$1.05)		(\$0.97)				(\$0.68)		-35.2%		\$0.29	
Adjusted Diluted EPS (exl. ESO)	(\$0.60)		(\$0.92)	(\$0.75)			(\$0.56)	-6.7%			\$0.36	
FY14 Guidance [Reiterated]							Other Commentary					
Revenue Guidance: \$45-50M - Gross Margin: 55-58% - Opex of \$70-75M, split 2/3 as SG&A, 1/3 as R&D - Interest expense: \$~4M; SBC: \$4-5M; Capex: \$3-4M Net loss Guidance: (\$40M)-(\$50M)							5 Additional Prosigna enabled placements in the quarter 40% of 1Q global nCounter installations were FLEX configured +200 nCounter installed base and over 400 publications nCounter Elements and PanCancer Pathways Panel launched McKesson z-code and MAAA cpt-code for Prosigna issued					

Source: J.P. Morgan estimates, Company data.

Investment Thesis, Valuation, and Risks

Investment Thesis

As a life science company moving into diagnostics, NSTG can leverage several trends, including a migration from analog to digital multiplex analysis, and the need for new clinically relevant content in areas like breast cancer analysis. With steady growth in the life science business today and FDA approval of the Prosigna Breast Cancer assay granted in 3Q13, we expect the company to outgrow peers, aided by an expanding installed base of nCounter systems, increased consumable pull-through and, ultimately, adoption and acceptance of Prosigna and other follow-on tests. Moreover, gross margins are poised to expand as high-margin consumables become a larger part of the Life Sciences revenue mix and Prosigna revenues begin to ramp following FDA approval. Reiterate Overweight.

Valuation

Our updated December 2014 price target of \$20 is derived using a 10-year DCF with a CAPM-derived WACC of 12.5% and a terminal growth of +1.5% (see Figure 3).

Risks to Rating and Price Target

Downside risks include: (1) market share gains for Prosigna in the diagnostics market are slower than anticipated; and (2) a lack of reimbursement at adequate levels or inclusion in guidelines which could negatively impact the market acceptance of Prosigna.

Figure 2: NSTG: Model

Income Statement		1QA	2QA	3QA	4QA		1QA	2QE	3QE	4QE			CAGR
USD \$M	2012A	Mar	Jun	Sep	Dec	2013A	Mar	Jun	Sep	Dec	2014E	2015E	10-15
Molecular Diagnostics	0	0	0	0	0	1	0	0	1	2	3	26	N/A
Life Sciences	23	6	7	8	10	31	9	9	12	15	45	57	37.2%
Total Revenue	23	6	7	8	10	31	9	10	13	17	49	83	47.8%
Gross Profit	11	3	4	5	5	16	4	6	7	10	27	53	82.6%
SG&A	(15)	(6)	(7)	(8)	(9)	(30)	(11)	(13)	(14)	(14)	(51)	(47)	42.3%
R&D	(12)	(3)	(4)	(4)	(5)	(15)	(5)	(6)	(6)	(5)	(23)	(27)	29.5%
EBITA (Operating Income)	(16)	(6)	(7)	(7)	(8)	(28)	(11)	(14)	(13)	(10)	(47)	(22)	N/A
EBITDA	(15)	(6)	(6)	(7)	(8)	(27)	(11)	(13)	(13)	(9)	(46)	(20)	N/A
Pre-Tax Income	(7)	(3)	(4)	(6)	(8)	(21)	(10)	(15)	(13)	(10)	(48)	(24)	
Income Taxes	0	0	0	0	0	0	0	0	0	0	0	0	
Adjusted Net Income	(14)	(6)	(6)	(6)	(8)	(26)	(10)	(15)	(13)	(10)	(48)	(24)	N/A
Diluted Shares Outstanding	7.9	9.2	9.2	14.6	14.6	11.9	16.9	18.3	19.0	19.7	18.5	24.1	
Adjusted Diluted EPS (excludes ESO)	\$ (1.70)	\$ (0.60)	\$ (0.62)	\$ (0.42)	\$ (0.51)	\$ (2.08)	\$ (0.56)	\$ (0.75)	\$ (0.64)	\$ (0.46)	\$ (2.40)	\$ (0.93)	
Gross Margin	46.4%	49.2%	51.2%	54.9%	52.4%	52.2%	50.6%	55.5%	55.8%	56.8%	55.1%	63.9%	8.3%
change in gross margin (y/y, bp)	+137	+821	+730	+603	+209	+576	+135	+430	+86	+440	+291	+880	
SG&A	67.1%	107.9%	92.9%	95.2%	89.8%	95.3%	122.0%	127.9%	109.2%	82.3%	106.0%	56.7%	
R&D	51.2%	53.9%	50.2%	45.1%	44.6%	47.7%	54.1%	65.2%	46.1%	32.6%	46.8%	33.2%	
Operating Margin	-71.8%	-112.6%	-92.0%	-85.4%	-82.0%	-90.7%	-125.5%	-137.7%	-99.7%	-58.4%	-97.8%	-26.4%	16.8%
change in op margin (y/y, bp)	-1284	-3447	-3118	-1408	-411	-1894	-1287	-4577	-1425	+2367	-706	+7137	
EBITDA Margin	-63.6%	-105.4%	-85.9%	-81.2%	-78.8%	-85.9%	-121.4%	-133.7%	-97.5%	-56.1%	-94.9%	-23.9%	15.7%
Tax Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Profit Margin	-61.5%	-100.4%	-82.4%	-76.6%	-77.8%	-82.6%	-119.9%	-146.2%	-99.5%	-59.5%	-98.9%	-28.8%	23.4%
Reported Revenue Growth y/y	29.1%	26.1%	21.5%	39.0%	55.9%	36.7%	54.2%	37.7%	55.3%	66.2%	54.5%	70.4%	

Source: J.P. Morgan estimates, Company data.

Figure 3: NSTG: DCF Analysis

Projected FY Ending Dec	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Revenue (\$M)	31	49	83	122	157	182	204	227	250	272	292	310
growth y/y		55%	70%	47%	29%	16%	12%	11%	10%	9%	7%	6%
EBIT (\$M)	(29)	(47)	(22)	1	24	45	62	78	92	106	118	129
EBIT margin	-92%	-98%	-26%	0%	15%	25%	30%	35%	37%	39%	40%	42%
Tax-affected EBIT (\$M)	(29)	(47)	(22)	1	24	29	41	51	60	69	77	84
Free Cash Flow	(32)	(54)	(29)	(7)	18	25	37	47	56	65	74	82
growth y/y						39%	46%	29%	19%	16%	13%	10%

Discount Rate	Discounted Cash Flows (\$M)	PV of Terminal Value (\$M) at a Perpetual Growth Rate of					Enterprise Value (\$M)					Equivalent Terminal EBITDA Multiple (forward 12 mos)				
	2015-2024	0.5%	1.0%	1.5%	2.0%	2.5%	0.5%	1.0%	1.5%	2.0%	2.5%	0.5%	1.0%	1.5%	2.0%	2.5%
11.5%	93	297	313	330	349	370	389	405	423	442	463	3.1x	3.2x	3.4x	3.5x	3.7x
12.0%	88	273	287	302	319	338	362	375	391	407	426	2.9x	3.0x	3.1x	3.2x	3.4x
12.5%	84	252	265	278	293	309	336	349	362	377	393	2.7x	2.8x	2.9x	3.0x	3.1x
13.0%	80	233	244	256	269	283	313	324	336	349	363	2.5x	2.6x	2.7x	2.8x	2.9x
13.5%	76	216	226	236	248	260	292	302	312	324	337	2.3x	2.4x	2.5x	2.6x	2.7x
	Net Debt (Cash) (\$M)	Equity Value (\$M)					Equity Value per Share					Terminal Value as a % of Enterprise Value				
		0.5%	1.0%	1.5%	2.0%	2.5%	0.5%	1.0%	1.5%	2.0%	2.5%	0.5%	1.0%	1.5%	2.0%	2.5%
	(8)	397	413	430	449	471	\$21.52	\$22.37	\$23.31	\$24.35	\$25.50	76%	77%	78%	79%	80%
	(8)	369	383	398	415	434	\$20.01	\$20.76	\$21.58	\$22.49	\$23.49	76%	77%	77%	78%	79%
-	(8)	344	356	370	384	401	\$18.63	\$19.30	\$20.03	\$20.83	\$21.70	75%	76%	77%	78%	79%
	(8)	321	332	344	357	371	\$17.38	\$17.98	\$18.62	\$19.33	\$20.10	74%	75%	76%	77%	78%
	(8)	300	309	320	332	344	\$16.24	\$16.77	\$17.34	\$17.97	\$18.65	74%	75%	76%	76%	77%

Source: J.P. Morgan estimates, Company data.

NanoString: Summary of Financials

Income Statement - Annual	FY13A	FY14E	FY15E	FY16E	Income Statement - Quarterly	1Q14A	2Q14E	3Q14E	4Q14E
Revenues	31	49	83	122	Revenues	9A	10	13	17
Cost of products sold	(15)	(22)	(30)	(38)	Cost of products sold	(4)A	(4)	(6)	(7)
Gross profit	-	-	-	-	Gross profit	-	-	-	-
SG&A	(30)	(51)	(47)	(49)	SG&A	(11)A	(13)	(14)	(14)
R&D	(15)	(23)	(27)	(33)	R&D	(5)A	(6)	(6)	(5)
Operating income	(28)	(47)	(21)	1	Operating income	(11)A	(14)	(13)	(10)
EBITDA	(27)	(46)	(19)	5	EBITDA	(11)A	(13)	(13)	(9)
Net interest (income) / expense	(2)	(3)	(4)	(6)	Net interest (income) / expense	(1)A	(1)	(0)	(1)
Other income / (expense)	-	-	-	-	Other income / (expense)	-	-	-	-
Income taxes	0	0	0	0	Income taxes	0A	0	0	0
Net income	(39)	(49)	(24)	(4)	Net income	(11)A	(13)	(11)	(8)
Diluted shares outstanding	-	-	-	-	Diluted shares outstanding	-	-	-	-
Diluted EPS	-	-	-	-	Diluted EPS	-	-	-	-
Balance Sheet and Cash Flow Data	FY13A	FY14E	FY15E	FY16E	Ratio Analysis	FY13A	FY14E	FY15E	FY16E
Cash and cash equivalents			50	41	Sales growth	36.7%	54.5%	70.4%	47.0%
Accounts receivable	8	12	16	22	EBIT growth	72.8%	66.4%	(54.7%)	(106.7%)
Inventories	7	9	12	14	EPS growth	-	-	-	-
Other current assets	3	3	3	3	Gross margin	-	-	-	-
Current assets	51	56	114	113	EBIT margin	(90.7%)	(97.8%)	(26.4%)	0.5%
PP&E	-	-	-	-	EBITDA margin	(85.9%)	(94.9%)	(23.9%)	3.0%
Total assets	51	57	114	114	Tax rate	0.0%	0.0%	0.0%	0.0%
Total debt	18	28	63	63	Net margin	(122.9%)	(101.4%)	(29.2%)	(2.9%)
Total liabilities	33	44	81	82	Net Debt / EBITDA	(67.8%)	(61.4%)	(65.5%)	600.5%
Shareholders' equity	31	21	40	38	Net Debt / Capital (book)	36.8%	57.6%	24.6%	36.5%
Net income (including charges)	(29)	(50)	(24)	(4)	Return on assets (ROA)	(90.7%)	(91.0%)	(28.3%)	(3.1%)
D&A	2	1	2	3	Return on equity (ROE)	(172.0%)	(188.1%)	(79.9%)	(9.1%)
Change in working capital	(4)	(4)	(6)	(7)	Enterprise value / sales	-	-	-	-
Other	(1)	0	0	0	Enterprise value / EBITDA	-	-	-	-
Cash flow from operations	(32)	(52)	(28)	(8)	Free cash flow yield	-	-	-	-
Capex	(1)	(3)	(3)	(4)					
Free cash flow	(33)	(56)	(31)	(11)					
Cash flow from investing activities	(1)	(3)	(3)	(4)					
Cash flow from financing activities	53	45	76	0					
Dividends	0	0	0	0					
Dividend yield	-	-	-	-					

Source: Company reports and J.P. Morgan estimates.

Note: \$ in millions (except per-share data). Fiscal year ends Dec

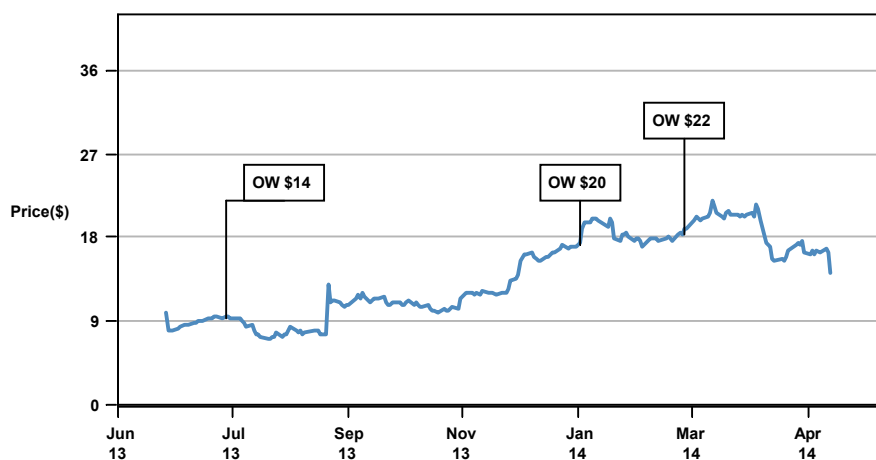
Analyst Certification: The research analyst(s) denoted by an “AC” on the cover of this report certifies (or, where multiple research analysts are primarily responsible for this report, the research analyst denoted by an “AC” on the cover or within the document individually certifies, with respect to each security or issuer that the research analyst covers in this research) that: (1) all of the views expressed in this report accurately reflect his or her personal views about any and all of the subject securities or issuers; and (2) no part of any of the research analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst(s) in this report. For all Korea-based research analysts listed on the front cover, they also certify, as per KOFIA requirements, that their analysis was made in good faith and that the views reflect their own opinion, without undue influence or intervention.

Important Disclosures

- **Market Maker:** JPMS makes a market in the stock of NanoString.
- **Lead or Co-manager:** J.P. Morgan acted as lead or co-manager in a public offering of equity and/or debt securities for NanoString within the past 12 months.
- **Client:** J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as clients: NanoString.
- **Client/Investment Banking:** J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as investment banking clients: NanoString.
- **Client/Non-Investment Banking, Securities-Related:** J.P. Morgan currently has, or had within the past 12 months, the following company(ies) as clients, and the services provided were non-investment-banking, securities-related: NanoString.
- **Investment Banking (past 12 months):** J.P. Morgan received in the past 12 months compensation from investment banking NanoString.
- **Investment Banking (next 3 months):** J.P. Morgan expects to receive, or intends to seek, compensation for investment banking services in the next three months from NanoString.
- **Non-Investment Banking Compensation:** J.P. Morgan has received compensation in the past 12 months for products or services other than investment banking from NanoString.

Company-Specific Disclosures: Important disclosures, including price charts, are available for compendium reports and all J.P. Morgan–covered companies by visiting <https://jpm.com/research/disclosures>, calling 1-800-477-0406, or e-mailing research.disclosure.inquiries@jpmorgan.com with your request. J.P. Morgan’s Strategy, Technical, and Quantitative Research teams may screen companies not covered by J.P. Morgan. For important disclosures for these companies, please call 1-800-477-0406 or e-mail research.disclosure.inquiries@jpmorgan.com.

NanoString (NSTG, NSTG US) Price Chart



Source: Bloomberg and J.P. Morgan; price data adjusted for stock splits and dividends.
Initiated coverage Jul 22, 2013.

The chart(s) show J.P. Morgan's continuing coverage of the stocks; the current analysts may or may not have covered it over the entire period.

J.P. Morgan ratings or designations: OW = Overweight, N= Neutral, UW = Underweight, NR = Not Rated

Explanation of Equity Research Ratings, Designations and Analyst(s) Coverage Universe:

J.P. Morgan uses the following rating system: Overweight [Over the next six to twelve months, we expect this stock will outperform the average total return of the stocks in the analyst's (or the analyst's team's) coverage universe.] Neutral [Over the next six to twelve months, we expect this stock will perform in line with the average total return of the stocks in the analyst's (or the analyst's team's) coverage universe.] Underweight [Over the next six to twelve months, we expect this stock will underperform the average total return of the stocks in the analyst's (or the analyst's team's) coverage universe.] Not Rated (NR): J.P. Morgan has removed the rating and, if applicable, the price target, for this stock because of either a lack of a sufficient fundamental basis or for legal, regulatory or policy reasons. The previous rating and, if applicable, the price target, no longer should be relied upon. An NR designation is not a recommendation or a rating. In our Asia (ex-Australia) and U.K. small- and mid-cap equity research, each stock's expected total return is compared to the expected total return of a benchmark country market index, not to those analysts' coverage universe. If it does not appear in the Important Disclosures section of this report, the certifying analyst's coverage universe can be found on J.P. Morgan's research website, www.jpmorganmarkets.com.

Coverage Universe: Peterson, Tycho W: Accuray (ARAY), Affymetrix (AFFX), Agilent Technologies (A), Bruker Corporation (BRKR), Cellular Dynamics (ICEL), Cepheid (CPHD), Charles River Laboratories (CRL), Covance (CVD), FEI Company (FEIC), Foundation Medicine (FMI), GenMark Diagnostics (GNMK), Genomic Health (GHDX), Hologic (HOLX), ICON Plc (ICLR), Illumina, Inc. (ILMN), Intrexon (XON), Intuitive Surgical, Inc. (ISRG), Luminex (LMNX), Mettler-Toledo (MTD), Myriad Genetics Inc. (MYGN), NanoString (NSTG), Oxford Immunotec (OXFD), Pacific Biosciences Inc. (PACB), PerkinElmer (PKI), Qiagen N.V. (QGEN), Quidel (QDEL), Quintiles Transnational (Q), Sigma Aldrich (SIAL), Sirona Dental Systems Inc (SIRO), Thermo Fisher Scientific (TMO), Varian Medical (VAR), Waters (WAT), WuXi PharmaTech (WX), Zeltiq Aesthetics (ZLTQ)

J.P. Morgan Equity Research Ratings Distribution, as of March 31, 2014

	Overweight (buy)	Neutral (hold)	Underweight (sell)
J.P. Morgan Global Equity Research Coverage	44%	44%	11%
IB clients*	58%	49%	40%
JPMS Equity Research Coverage	45%	48%	7%
IB clients*	78%	67%	60%

*Percentage of investment banking clients in each rating category.

For purposes only of FINRA/NYSE ratings distribution rules, our Overweight rating falls into a buy rating category; our Neutral rating falls into a hold rating category; and our Underweight rating falls into a sell rating category. Please note that stocks with an NR designation are not included in the table above.

Equity Valuation and Risks: For valuation methodology and risks associated with covered companies or price targets for covered companies, please see the most recent company-specific research report at <http://www.jpmorganmarkets.com>, contact the primary analyst or your J.P. Morgan representative, or email research.disclosure.inquiries@jpmorgan.com.

Equity Analysts' Compensation: The equity research analysts responsible for the preparation of this report receive compensation based upon various factors, including the quality and accuracy of research, client feedback, competitive factors, and overall firm revenues.

Other Disclosures

J.P. Morgan ("JPM") is the global brand name for J.P. Morgan Securities LLC ("JPMS") and its affiliates worldwide. J.P. Morgan Cazenove is a marketing name for the U.K. investment banking businesses and EMEA cash equities and equity research businesses of JPMorgan Chase & Co. and its subsidiaries.

All research reports made available to clients are simultaneously available on our client website, J.P. Morgan Markets. Not all research content is redistributed, e-mailed or made available to third-party aggregators. For all research reports available on a particular stock, please contact your sales representative.

Options related research: If the information contained herein regards options related research, such information is available only to persons who have received the proper option risk disclosure documents. For a copy of the Option Clearing Corporation's Characteristics and Risks of Standardized Options, please contact your J.P. Morgan Representative or visit the OCC's website at <http://www.optionsclearing.com/publications/risks/riskstoc.pdf>

Legal Entities Disclosures

U.S.: JPMS is a member of NYSE, FINRA, SIPC and the NFA. JPMorgan Chase Bank, N.A. is a member of FDIC. **U.K.:** JPMorgan Chase N.A., London Branch, is authorised by the Prudential Regulation Authority and is subject to regulation by the Financial Conduct Authority and to limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from J.P. Morgan on request. J.P. Morgan Securities plc (JPMS plc) is a member of the London Stock Exchange and is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Registered in England & Wales No. 2711006. Registered Office 25 Bank Street, London, E14 5JP. **South Africa:** J.P. Morgan Equities South Africa Proprietary Limited is a member of the Johannesburg Securities Exchange and is regulated by the Financial Services Board. **Hong Kong:** J.P. Morgan Securities (Asia Pacific) Limited (CE number AAJ321) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission in Hong Kong and/or J.P. Morgan Broking (Hong Kong) Limited (CE number AAB027) is regulated by the Securities and Futures Commission in Hong Kong. **Korea:** J.P. Morgan Securities (Far East) Ltd, Seoul Branch, is

regulated by the Korea Financial Supervisory Service. **Australia:** J.P. Morgan Australia Limited (JPMAL) (ABN 52 002 888 011/AFS Licence No: 238188) is regulated by ASIC and J.P. Morgan Securities Australia Limited (JPMSAL) (ABN 61 003 245 234/AFS Licence No: 238066) is regulated by ASIC and is a Market, Clearing and Settlement Participant of ASX Limited and CHI-X. **Taiwan:** J.P.Morgan Securities (Taiwan) Limited is a participant of the Taiwan Stock Exchange (company-type) and regulated by the Taiwan Securities and Futures Bureau. **India:** J.P. Morgan India Private Limited, having its registered office at J.P. Morgan Tower, Off. C.S.T. Road, Kalina, Santacruz East, Mumbai - 400098, is a member of the National Stock Exchange of India Limited (SEBI Registration Number - INB 230675231/INF 230675231/INE 230675231) and Bombay Stock Exchange Limited (SEBI Registration Number - INB 010675237/INF 010675237) and is regulated by Securities and Exchange Board of India. For non local research reports, this material is not distributed in India by J.P. Morgan India Private Limited. **Thailand:** This material is issued and distributed in Thailand by JPMorgan Securities (Thailand) Ltd., which is a member of the Stock Exchange of Thailand and is regulated by the Ministry of Finance and the Securities and Exchange Commission and its registered address is 3rd Floor, 20 North Sathorn Road, Silom, Bangrak, Bangkok 10500. **Indonesia:** PT J.P. Morgan Securities Indonesia is a member of the Indonesia Stock Exchange and is regulated by the OJK a.k.a. BAPEPAM LK. **Philippines:** J.P. Morgan Securities Philippines Inc. is a Trading Participant of the Philippine Stock Exchange and a member of the Securities Clearing Corporation of the Philippines and the Securities Investor Protection Fund. It is regulated by the Securities and Exchange Commission. **Brazil:** Banco J.P. Morgan S.A. is regulated by the Comissão de Valores Mobiliários (CVM) and by the Central Bank of Brazil. **Mexico:** J.P. Morgan Casa de Bolsa, S.A. de C.V., J.P. Morgan Grupo Financiero is a member of the Mexican Stock Exchange and authorized to act as a broker dealer by the National Banking and Securities Exchange Commission. **Singapore:** This material is issued and distributed in Singapore by or through J.P. Morgan Securities Singapore Private Limited (JPMSS) [MCI (P) 199/03/2014 and Co. Reg. No.: 199405335R] which is a member of the Singapore Exchange Securities Trading Limited and is regulated by the Monetary Authority of Singapore (MAS) and/or JPMorgan Chase Bank, N.A., Singapore branch (JPMCB Singapore) which is regulated by the MAS. This material is provided in Singapore only to accredited investors, expert investors and institutional investors, as defined in Section 4A of the Securities and Futures Act, Cap. 289. Recipients of this document are to contact JPMSS or JPMCB Singapore in respect of any matters arising from, or in connection with, the document. **Japan:** JPMorgan Securities Japan Co., Ltd. is regulated by the Financial Services Agency in Japan. **Malaysia:** This material is issued and distributed in Malaysia by JPMorgan Securities (Malaysia) Sdn Bhd (18146-X) which is a Participating Organization of Bursa Malaysia Berhad and a holder of Capital Markets Services License issued by the Securities Commission in Malaysia. **Pakistan:** J. P. Morgan Pakistan Broking (Pvt.) Ltd is a member of the Karachi Stock Exchange and regulated by the Securities and Exchange Commission of Pakistan. **Saudi Arabia:** J.P. Morgan Saudi Arabia Ltd. is authorized by the Capital Market Authority of the Kingdom of Saudi Arabia (CMA) to carry out dealing as an agent, arranging, advising and custody, with respect to securities business under licence number 35-07079 and its registered address is at 8th Floor, Al-Faisaliyah Tower, King Fahad Road, P.O. Box 51907, Riyadh 11553, Kingdom of Saudi Arabia. **Dubai:** JPMorgan Chase Bank, N.A., Dubai Branch is regulated by the Dubai Financial Services Authority (DFSA) and its registered address is Dubai International Financial Centre - Building 3, Level 7, PO Box 506551, Dubai, UAE.

Country and Region Specific Disclosures

U.K. and European Economic Area (EEA): Unless specified to the contrary, issued and approved for distribution in the U.K. and the EEA by JPMS plc. Investment research issued by JPMS plc has been prepared in accordance with JPMS plc's policies for managing conflicts of interest arising as a result of publication and distribution of investment research. Many European regulators require a firm to establish, implement and maintain such a policy. This report has been issued in the U.K. only to persons of a kind described in Article 19 (5), 38, 47 and 49 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (all such persons being referred to as "relevant persons"). This document must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is only available to relevant persons and will be engaged in only with relevant persons. In other EEA countries, the report has been issued to persons regarded as professional investors (or equivalent) in their home jurisdiction. **Australia:** This material is issued and distributed by JPMSAL in Australia to "wholesale clients" only. This material does not take into account the specific investment objectives, financial situation or particular needs of the recipient. The recipient of this material must not distribute it to any third party or outside Australia without the prior written consent of JPMSAL. For the purposes of this paragraph the term "wholesale client" has the meaning given in section 761G of the Corporations Act 2001. **Germany:** This material is distributed in Germany by J.P. Morgan Securities plc, Frankfurt Branch and J.P.Morgan Chase Bank, N.A., Frankfurt Branch which are regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht. **Hong Kong:** The 1% ownership disclosure as of the previous month end satisfies the requirements under Paragraph 16.5(a) of the Hong Kong Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission. (For research published within the first ten days of the month, the disclosure may be based on the month end data from two months prior.) J.P. Morgan Broking (Hong Kong) Limited is the liquidity provider/market maker for derivative warrants, callable bull bear contracts and stock options listed on the Stock Exchange of Hong Kong Limited. An updated list can be found on HKEx website: <http://www.hkex.com.hk>. **Japan:** There is a risk that a loss may occur due to a change in the price of the shares in the case of share trading, and that a loss may occur due to the exchange rate in the case of foreign share trading. In the case of share trading, JPMorgan Securities Japan Co., Ltd., will be receiving a brokerage fee and consumption tax (shouhizei) calculated by multiplying the executed price by the commission rate which was individually agreed between JPMorgan Securities Japan Co., Ltd., and the customer in advance. Financial Instruments Firms: JPMorgan Securities Japan Co., Ltd., Kanto Local Finance Bureau (kinsho) No. 82 Participating Association / Japan Securities Dealers Association, The Financial Futures Association of Japan, Type II Financial Instruments Firms Association and Japan Investment Advisers Association. **Korea:** This report may have been edited or contributed to from time to time by affiliates of J.P. Morgan Securities (Far East) Ltd, Seoul Branch. **Singapore:** JPMSS and/or its affiliates may have a holding in any of the securities discussed in this report; for securities where the holding is 1% or greater, the specific holding is disclosed in the Important Disclosures section above. **India:** For private circulation only, not for sale. **Pakistan:** For private circulation only, not for sale. **New Zealand:** This material is issued and distributed by JPMSAL in New Zealand only to persons whose principal business is the investment of money or who, in the course of and for the purposes of their business, habitually invest money. JPMSAL does not issue or distribute this material to members of "the public" as determined in accordance with section 3 of the Securities Act 1978. The recipient of this material must not distribute it to any third party or outside New Zealand without the prior written consent of JPMSAL. **Canada:** The information contained herein is not, and under no circumstances is to be construed as, a prospectus, an advertisement, a public offering, an offer to sell securities described herein, or solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. Any offer or sale of the securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable securities laws or, alternatively, pursuant to an exemption from the dealer registration requirement in the relevant province or territory of Canada in which such offer or sale is made. The information contained herein is under no circumstances to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. To the extent that the information contained herein references securities of an issuer incorporated, formed or created under the laws of Canada or a province or territory of Canada, any trades in such securities must be conducted through a dealer registered in Canada. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed judgment upon these materials, the information contained herein

or the merits of the securities described herein, and any representation to the contrary is an offence. **Dubai:** This report has been issued to persons regarded as professional clients as defined under the DFSA rules. **Brazil:** Ombudsman J.P. Morgan: 0800-7700847 / ouvidoria.jp.morgan@jpmorgan.com.

General: Additional information is available upon request. Information has been obtained from sources believed to be reliable but JPMorgan Chase & Co. or its affiliates and/or subsidiaries (collectively J.P. Morgan) do not warrant its completeness or accuracy except with respect to any disclosures relative to JPMS and/or its affiliates and the analyst's involvement with the issuer that is the subject of the research. All pricing is as of the close of market for the securities discussed, unless otherwise stated. Opinions and estimates constitute our judgment as of the date of this material and are subject to change without notice. Past performance is not indicative of future results. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The opinions and recommendations herein do not take into account individual client circumstances, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients. The recipient of this report must make its own independent decisions regarding any securities or financial instruments mentioned herein. JPMS distributes in the U.S. research published by non-U.S. affiliates and accepts responsibility for its contents. Periodic updates may be provided on companies/industries based on company specific developments or announcements, market conditions or any other publicly available information. Clients should contact analysts and execute transactions through a J.P. Morgan subsidiary or affiliate in their home jurisdiction unless governing law permits otherwise.

"Other Disclosures" last revised April 5, 2014.

Copyright 2014 JPMorgan Chase & Co. All rights reserved. This report or any portion hereof may not be reprinted, sold or redistributed without the written consent of J.P. Morgan.