

November 4, 2014

## T2 Biosystems Inc

# No surprises in 3Q; Commercialization Plan Coming Together

T2's first quarterly update reaffirmed commercial plans for '15 in the wake of the rapid FDA approval for T2Candida. Our PT remains \$19 as visibility on launch timelines goes higher.

**No surprises in 3Q.** Given FDA approval on 9/22 and the limited time in commercialization, T2's updates on the 3Q call were limited. Clearly the rapid FDA approval (September, ahead of our November expectation) of T2Dx and T2Candida opened the door for commercial activity ahead of plan; the company aims to have 7 reps exiting November and anticipates commercial placements as soon as 1Q15. Despite the early commercialization, opex in the quarter was \$2mn light of our expectations and 4Q Opex guidance (+15% q/q) implies spending roughly \$1mn below our est, supporting our expectation for T2 to remain funded through '16.

**The commercial ramp will be managed closely as new sites and processes are validated.** T2 reiterated plans to commercialize the T2Dx instrument and T2Candida assay in 1H2015 following its FDA approval, targeting the Top 450 US accounts and anticipating 30+ hospital contracts and 15 rep hires by the end of 2015. We revised our hospital account forecast for '15 to 32 hospital sites given the time required to install and validate new instruments, with 1.5 instruments per site. T2 has set list pricing for T2Candida at over \$250; while this figure is ahead of our ASP forecast at \$160-170, it remains to be seen how pricing will translate upon commercialization.

**No change to timelines on the clinical front.** The launch of the critical bacterial panel is still set for early 2017 and clinical validation studies for T2Bacteria are planned for 2H15. Trials in hemostasis are set for initiation in 1H16. T2's valuation remains tied to the potential for the medium-term ramp in sepsis; we expect substantial uptake in large centers upon commercialization given the scale of the unmet need for rapid sepsis diagnosis. Our revenue forecast remains ~\$115MM in 2017. Our bull case \$46 valuation assumes penetration of >350 sites in 2020 with support from the '16 bacterial panel launch and revenues of ~\$300mn.

MORGAN STANLEY &amp; CO. LLC

David R. Lewis

David.R.Lewis@morganstanley.com

+1 415 576-2324

Steve Beuchaw

Steve.Beuchaw@morganstanley.com

+1 212 761-6672

## T2 Biosystems Inc ( T2OO.O , T2OO US )

Life Science Tools &amp; Diagnostics / United States of America

|                                |                     |
|--------------------------------|---------------------|
| <b>Stock Rating</b>            | <b>Equal-weight</b> |
| <b>Industry View</b>           | <b>In-Line</b>      |
| <b>Price target</b>            | <b>\$19.00</b>      |
| Shr price, close (Nov 4, 2014) | \$15.04             |
| Mkt cap, curr (mm)             | \$301               |
| 52-Week Range                  | \$24.50-13.40       |

| Fiscal Year Ending        | 12/13         | 12/14e        | 12/15e        | 12/16e        |
|---------------------------|---------------|---------------|---------------|---------------|
| Co.-rpt'd rev (\$mm)*     | -             | -             | -             | -             |
| <b>ModelWare EPS (\$)</b> | <b>(2.10)</b> | <b>(2.34)</b> | <b>(2.01)</b> | <b>(1.85)</b> |
| <b>P/E</b>                | <b>NM</b>     | <b>NM</b>     | <b>NM</b>     | <b>NM</b>     |
| Div yld (%)               | -             | 0.0           | 0.0           | 0.0           |

Unless otherwise noted, all metrics are based on Morgan Stanley ModelWare framework  
 \* = GAAP or approximated based on GAAP  
 e = Morgan Stanley Research estimates

## QUARTERLY MODELWARE EPS (\$)

| Quarter | 2013 | 2014e<br>Prior | 2014e<br>Current | 2015e<br>Prior | 2015e<br>Current |
|---------|------|----------------|------------------|----------------|------------------|
| Q1      | -    | -              | (0.63)a          | (0.40)         | (0.45)           |
| Q2      | -    | -              | (0.66)a          | (0.46)         | (0.46)           |
| Q3      | -    | -              | (0.71)a          | (0.53)         | (0.47)           |
| Q4      | -    | (0.49)         | (0.42)           | (0.69)         | (0.64)           |

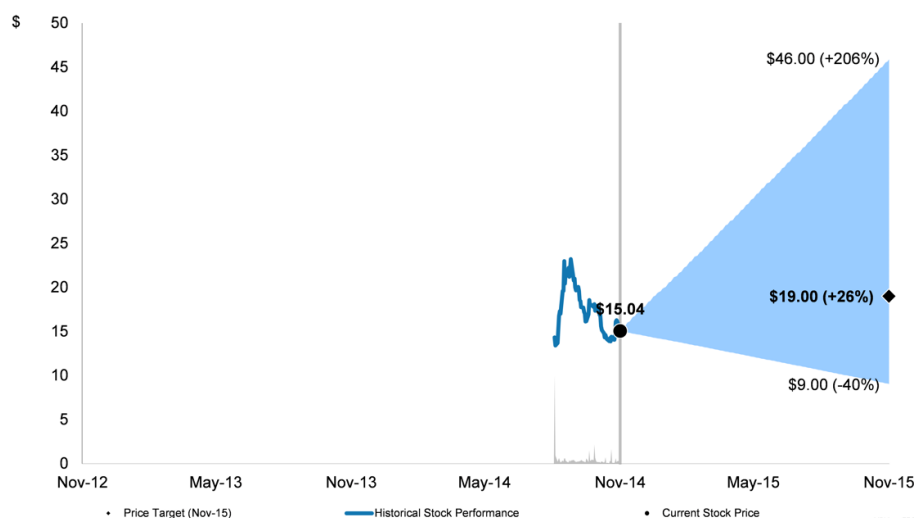
e = Morgan Stanley Research estimates, a = Actual Company reported data

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

**For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report.**

## Risk Reward

### Early Phases of a Revolution in Rapid Sepsis Diagnostics



Source: Thomson Reuters, Morgan Stanley Research estimates

#### Price Target \$19.00

Value base case 2017 revenues of \$115 MM using a 3.9x EV/Sales multiple, below fast-growing diagnostic peers with demonstrated commercial traction. Assuming a fully loaded share base and 10% discount rate, we arrive at a 12-month target price.

#### Bull \$46

5.0x Bull Case 2020E Rev

Forecasted 2020E revenues capturing significant upside from the launches of T2Bacteria panel and hemostasis panels in 2017 leading to site expansion although gradual test price declines to ~\$135 by 2020 to capture smaller-scale hospitals.

#### Base \$19

3.9x Base Case 2017E Rev

Forecast penetration into 134 sites of top 200 hospitals by end of 2016 expanding to 253 sites (out of top 450 hospitals) by end of 2018 driven by availability of both T2Candida and T2Bacteria test panels, with pricing of ~\$170 per test.

#### Bear \$9

2.5x Bear Case 2017E Rev

Forecast only 90% of penetration from base case, or 121 sites with T2Candida panel and assumes T2Bacteria and hemostasis panels do not launch commercially before 2017.

### Investment Thesis

- T2 Biosystem's T2Dx system is serving a critical unmet need through its rapid diagnosis of sepsis in as little as three hours, faster by 24 hours or more than the current standard of care to curb unnecessary drug treatments for the uninfected and accelerate appropriate therapies for infected patients
- We believe T2 has at least two years of runway in the US before competition could emerge with a technology that yields a diagnosis in less than 24 hours

### Key Value Drivers

- Speed, providing results from a whole blood sample in three hours — beating competing sepsis diagnosis technologies by at least 24 hours and curbing unnecessary drug treatment for uninfected patients
- Ease of use, eliminating manual prep steps that can introduce risks of cross-contamination
- Clinical validation, with clinical data that demonstrates +80% sensitivity and +90% specificity
- International expansion in 2017

### Potential Catalysts

- FDA approval for the T2Dx and T2Candida systems by YE2014
- Successful commercial launch of T2Dx and T2Candida in the first half of 2015
- Initiation of clinical trials for T2Bacteria in the second half of 2015 with a commercial launch targeted for later 2016, adding an additional 2.0MM patients to its addressable market
- Clinical trial initiation for T2Stat and T2HemoStat in the first half of 2016

### Risks to Achieving Price Target

- Delay in FDA approval of the T2Dx system and T2Candida panel
- Slower-than-expected commercial uptake for the new diagnostic modality for sepsis testing since it requires lab directors to add a new system to their lineup
- The launch of a competing product with a similarly distinguishable clinical profile and process timeline within the next two years
- International penetration fails to materialize

## Exhibit 1: T2 Income Statement

|                          | 2012A      | 2013A      | 2014E     |           |           |           |            | 2015E     |           |           |            |             | 2016E       | 2017E       | 2018E       |
|--------------------------|------------|------------|-----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|
|                          | 2012A      | 2013A      | Mar-14    | Jun-14    | Sep-14    | Dec-14    | 2014E      | Mar-15    | Jun-15    | Sep-15    | Dec-15     | 2015E       | 2016E       | 2017E       | 2018E       |
| Revenue, net             | \$19       | \$266      | \$0       | \$0       | \$0       | \$750     | \$750      | \$411     | \$534     | \$776     | \$1,275    | \$2,996     | \$26,357    | \$114,741   | \$248,577   |
| Cost of Goods Sold       | \$0        | \$0        | \$0       | \$0       | \$0       | \$525     | \$525      | \$329     | \$428     | \$621     | \$1,020    | \$2,397     | \$11,202    | \$36,717    | \$69,602    |
| Gross Profit             | \$19       | \$266      | \$0       | \$0       | \$0       | \$225     | \$225      | \$82      | \$107     | \$155     | \$255      | \$599       | \$15,155    | \$78,024    | \$178,975   |
| R&D                      | \$11,727   | \$14,936   | \$5,065   | \$4,703   | \$4,803   | \$4,900   | \$19,471   | \$3,288   | \$3,741   | \$3,879   | \$6,373    | \$17,281    | \$21,085    | \$34,422    | \$34,801    |
| SG&A                     | \$2,945    | \$5,022    | \$1,842   | \$2,446   | \$2,984   | \$4,000   | \$11,272   | \$5,754   | \$5,345   | \$5,430   | \$6,373    | \$22,902    | \$29,888    | \$49,210    | \$78,718    |
| Total Operating Expenses | \$14,672   | \$19,958   | \$6,907   | \$7,149   | \$7,787   | \$8,900   | \$30,743   | \$9,042   | \$9,086   | \$9,309   | \$12,747   | \$40,183    | \$50,974    | \$83,633    | \$113,519   |
| EBITDA                   | (\$14,082) | (\$19,108) | (\$6,763) | (\$6,994) | (\$7,627) | (\$8,515) | (\$29,898) | (\$8,771) | (\$8,781) | (\$8,947) | (\$12,277) | (\$38,776)  | (\$34,890)  | (\$5,609)   | \$65,456    |
| Operating Income         | (\$14,653) | (\$19,692) | (\$6,907) | (\$7,149) | (\$7,787) | (\$8,675) | (\$30,518) | (\$8,960) | (\$8,979) | (\$9,153) | (\$12,492) | (\$39,584)  | (\$35,819)  | (\$5,609)   | \$65,456    |
| Total Non-op. Expense    | \$198      | (\$918)    | (\$13)    | (\$154)   | (\$304)   | \$181     | (\$290)    | (\$44)    | (\$170)   | (\$251)   | (\$281)    | (\$746)     | (\$1,335)   | (\$1,395)   | \$167       |
| Pre-Tax Income           | (\$14,455) | (\$20,610) | (\$6,920) | (\$7,303) | (\$8,091) | (\$8,494) | (\$30,808) | (\$9,004) | (\$9,149) | (\$9,405) | (\$12,772) | (\$40,330)  | (\$37,154)  | (\$7,003)   | \$65,623    |
| 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%        | 0.0%        | 0.0%        | 0.0%        |
| Income Taxes             | \$0        | \$0        | \$0       | \$0       | \$0       | \$0       | \$0        | \$0       | \$0       | \$0       | \$0        | \$0         | \$0         | \$0         | \$0         |
| NOL (Add) / Use          | (\$14,455) | (\$20,610) |           |           |           |           | (\$30,808) |           |           |           |            | (\$40,330)  | (\$37,154)  | (\$7,003)   | \$22,968    |
| NOL Balance              | (\$14,455) | (\$35,065) |           |           |           |           | (\$65,873) |           |           |           |            | (\$106,203) | (\$143,357) | (\$150,360) | (\$127,392) |
| Accretion of Conv Pref.  | \$4,412    | \$6,908    | \$1,906   | \$1,906   | \$758     | \$0       | \$4,570    | \$0       | \$0       | \$0       | \$0        | \$0         | \$0         | \$0         | \$0         |
| Net Income               | (\$18,867) | (\$27,518) | (\$8,826) | (\$9,209) | (\$8,849) | (\$8,494) | (\$35,378) | (\$9,004) | (\$9,149) | (\$9,405) | (\$12,772) | (\$40,330)  | (\$37,154)  | (\$7,003)   | \$65,623    |
| Fully Diluted Shares     | 8,348      | 13,112     | 14,022    | 14,036    | 12,379    | 20,041    | 15,119     | 20,041    | 20,041    | 20,041    | 20,041     | 20,041      | 20,041      | 20,167      | 21,052      |
| Period End Basic Shares  | 9,870      | 14,015     | 14,031    | 14,042    | 20,041    | 20,041    | 20,041     | 20,041    | 20,041    | 20,041    | 20,041     | 20,041      | 20,041      | 21,052      | 21,052      |
| Diluted EPS              | (\$2.26)   | (\$2.10)   | (\$0.63)  | (\$0.66)  | (\$0.71)  | (\$0.42)  | (\$2.34)   | (\$0.45)  | (\$0.46)  | (\$0.47)  | (\$0.64)   | (\$2.01)    | (\$1.85)    | (\$0.35)    | \$3.12      |
| Gross Margin             | 100%       | 100%       | NM        | NM        | NM        | 30%       | 30%        | 20%       | 20%       | 20%       | 20%        | 20%         | 57.5%       | 68.0%       | 72.0%       |
| SG&A                     | 15500%     | 1888%      | NM        | NM        | NM        | 533%      | 1503%      | 1400%     | 1000%     | 700%      | 500%       | 764%        | 113.4%      | 42.9%       | 31.7%       |
| R&D                      | 61721%     | 5615%      | NM        | NM        | NM        | 653%      | 2596%      | 800%      | 700%      | 500%      | 500%       | 577%        | 80.0%       | 30.0%       | 14.0%       |
| Operating Income         | -77121%    | -7403%     | NM        | NM        | NM        | -1157%    | -4069%     | -2180%    | -1680%    | -1180%    | -980%      | -1321%      | -135.9%     | -4.9%       | 26.3%       |
| Pre-Tax Income           | -76079%    | -7748%     | NM        | NM        | NM        | -1133%    | -4108%     | -2191%    | -1712%    | -1212%    | -1002%     | -1346%      | -141.0%     | -6.1%       | 26.4%       |
| Net Income               | -99300%    | -10345%    | NM        | NM        | NM        | -1133%    | -4717%     | -2191%    | -1712%    | -1212%    | -1002%     | -1346%      | -141.0%     | -6.1%       | 26.4%       |
| <b>Growth Rates</b>      |            |            |           |           |           |           |            |           |           |           |            |             |             |             |             |
| Sales                    |            | 1300%      | NM        | -100%     | NM        | NM        | 182%       | NM        | NM        | NM        | 70%        | 299%        | 780%        | 335%        | 117%        |
| Gross Profit             |            | 1300%      | NM        | -100%     | NM        | NM        | -15%       | NM        | NM        | NM        | 13%        | 166%        | 2429%       | 415%        | 129%        |
| SG&A                     |            | 71%        | 77%       | 88%       | NM        | NM        | 124%       | 212%      | 119%      | 82%       | 59%        | 103%        | 31%         | 65%         | 60%         |
| R&D                      |            | 27%        | 42%       | 26%       | NM        | NM        | 30%        | -35%      | -20%      | -19%      | 30%        | -11%        | 22%         | 63%         | 1%          |
| Operating Income         |            | 34%        | 50%       | 46%       | NM        | NM        | 55%        | 30%       | 26%       | 18%       | 44%        | 30%         | -10%        | -84%        | -1267%      |
| EPS                      |            | -7%        | NM        | NM        | NM        | NM        | 11%        | -29%      | -30%      | -34%      | 50%        | -14%        | -8%         | -81%        | -998%       |

Source: Company data, Morgan Stanley Research

## Exhibit 2: T2 Revenue Build

|   | 2014E     | 2015E     |           |           |           |             | 2016E        | 2017E        | 2018E         |
|---|-----------|-----------|-----------|-----------|-----------|-------------|--------------|--------------|---------------|
|   | 2014E     | Mar-15    | Jun-15    | Sep-15    | Dec-15    | 2015E       | 2016E        | 2017E        | 2018E         |
| <b>T2 Candida Revenue</b>               |           |           |           |           |           |             |              |              |               |
| Test Revenue                            |           |           |           |           |           |             |              |              |               |
| Direct Customer Test Price              |           | \$ 160    | \$ 161    | \$ 162    | \$ 162    | \$ 162      | \$ 165       | \$ 168       | \$ 171        |
| Reagent Rental Test Price               |           | \$ 160    | \$ 161    | \$ 162    | \$ 162    | \$ 162      | \$ 165       | \$ 168       | \$ 171        |
| T2 Candida Tests                        |           | -         | 320       | 1,440     | 3,840     | 5,600       | 115,740      | 457,937      | 607,235       |
| <b>T2 Candida Revenue</b>               |           | -         | 51,456    | 232,710   | 623,662   | 907,828     | 19,094,193   | 76,923,366   | 103,923,547   |
| Instrument Revenue                      |           |           |           |           |           |             |              |              |               |
| <b>Total Candida Sites EOP</b>          |           |           |           |           |           | 32          | 130          | 142          | 195           |
| New Sites                               |           | 2         | 6         | 9         | 15        | 32          | 98           | -            | -             |
| Instruments per site                    |           | 1.5       | 1.5       | 1.5       | 1.5       | 1.5         | 1.5          | 1.5          | 1.5           |
| Sites Adopting Candida & Bacteria       |           | -         | -         | -         | -         | -           | -            | 12           | 53            |
| Instruments per site                    |           | -         | -         | -         | -         | -           | -            | -            | -             |
| T2 Instruments - new                    |           | 3         | 9         | 14        | 23        | 49          | 148          | -            | -             |
| Instrument Price                        |           | \$ 60,000 | \$ 60,000 | \$ 60,000 | \$ 60,000 | \$ 60,000   | \$ 58,500    | \$ -         | \$ -          |
| <b>T2Dx Instrument Revenue</b>          |           | 36,000    | 108,000   | 168,000   | 276,000   | 588,000     | 1,731,600    | -            | -             |
| Support Revenue                         |           |           |           |           |           |             |              |              |               |
| HW maintainane                          |           | 12%       | 12%       | 12%       | 12%       | 12%         | 12%          | 12%          | 12%           |
| Instrument Vintage - Direct Sales (EOP) |           | 1         | 2         | 3         | 5         | 10          | 39           | 39           | 39            |
| Under Support (EOP)                     |           | -         | -         | -         | -         | -           | 10           | 39           | 39            |
| New Support Revenue                     |           | -         | -         | -         | -         | -           | 16,848       | 50,435       | -             |
| <b>Total Support Revenue</b>            |           | -         | -         | -         | -         | -           | 31,064       | 184,433      | 269,134       |
| <b>Total T2 Candida Revenue</b>         |           | \$36,000  | \$159,456 | \$400,710 | \$899,662 | \$1,495,828 | \$20,856,856 | \$77,107,799 | \$104,192,681 |
| <b>T2 Bacteria</b>                      |           |           |           |           |           |             |              |              |               |
| Test Revenue                            |           |           |           |           |           |             |              |              |               |
| Direct Customer Test Price              |           |           |           |           |           |             | \$ 169       | \$ 169       | \$ 171        |
| Reagent Rental Test Price               |           |           |           |           |           |             | \$ 169       | \$ 169       | \$ 171        |
| T2 Bacteria Tests                       |           |           |           |           |           |             | 100,384      | 602,014      | 602,014       |
| <b>T2 Bacteria Revenue</b>              |           |           |           |           |           |             | 16,928,453   | 103,173,228  | 103,173,228   |
| Instrument Revenue                      |           |           |           |           |           |             |              |              |               |
| <b>Total Sites EOP</b>                  |           |           |           |           |           | -           | -            | 115          | 259           |
| Sites Converted from Candida            |           |           |           |           |           |             |              | 92           | 38            |
| Additional Instruments per site         |           |           |           |           |           |             | 1.0          | 1.0          | 1.0           |
| New Sites                               |           |           |           |           |           |             | 2.0          | 2.0          | 2.0           |
| Instruments per site                    |           |           |           |           |           |             | 2.0          | 2.0          | 2.0           |
| T2 Instruments- new                     |           |           |           |           |           |             | 138          | 201          | 201           |
| Instrument Price                        |           | \$ 60,000 | \$ 60,000 | \$ 60,000 | \$ 60,000 | \$ 60,000   | \$ 58,500    | \$ 57,038    | \$ 55,612     |
| <b>T2Dx Instrument Revenue</b>          |           |           |           |           |           |             | 1,574,237    | 2,235,585    | 2,235,585     |
| Support Revenue                         |           |           |           |           |           |             |              |              |               |
| HW maintenance                          |           |           |           |           |           |             | 12%          | 12%          | 12%           |
| Instrument Vintage - Direct Sales (EOP) |           |           |           |           |           |             | -            | 28           | 68            |
| Under Support (EOP)                     |           |           |           |           |           |             | -            | 28           | 28            |
| New Support Revenue                     |           |           |           |           |           |             | -            | 46,046       | -             |
| <b>Total Support Revenue</b>            |           |           |           |           |           |             | -            | 106,107      | 106,107       |
| <b>Total T2 Bacteria Revenue</b>        | \$0       | \$0       | \$0       | \$0       | \$0       | \$0         | \$0          | \$18,502,690 | \$105,514,920 |
| <b>Hemostasis revenue</b>               |           |           |           |           |           |             |              |              |               |
| Test Revenue                            |           |           |           |           |           |             |              |              |               |
| Level I/II Test Price                   |           |           |           |           |           | \$ 35       | \$ 33        | \$ 32        | \$ 32         |
| Level III/IV Test Price                 |           |           |           |           |           | \$ 35       | \$ 33        | \$ 32        | \$ 32         |
| Level I/II Tests/year                   | -         |           |           |           |           | -           | 30,303       | 169,571      | 169,571       |
| Level III/IV Tests/year                 | -         |           |           |           |           | -           | 7,938        | 81,648       | 81,648        |
| Level I/II Revenue                      | -         |           |           |           |           | -           | 1,007,579    | 5,356,333    | 5,356,333     |
| Level III/IV Revenue                    | -         |           |           |           |           | -           | 263,939      | 2,579,056    | 2,579,056     |
| <b>Hemostasis Test Rev.</b>             | -         |           |           |           |           | -           | 1,271,518    | 7,935,389    | 7,935,389     |
| Instrument Revenue                      |           |           |           |           |           |             |              |              |               |
| Level I/II Sites                        | -         |           |           |           |           | -           | 24           | 14           | 14            |
| Level I/II Instruments per site         | -         |           |           |           |           | 4           | 4            | 4            | 4             |
| Level I/II Instruments -- new           | -         |           |           |           |           | -           | 96           | 57           | 57            |
| Level III/IV Sites                      | -         |           |           |           |           | -           | 123          | 228          | 228           |
| Level III/IV Instruments per site       | -         |           |           |           |           | 2           | 2            | 2            | 2             |
| Level III/IV Instruments -- new         | -         |           |           |           |           | -           | 245          | 455          | 455           |
| Level I/II Instrument Price             | -         |           |           |           |           | \$ 15,000   | \$ 14,250    | \$ 13,538    | \$ 13,538     |
| Level III/IV Instrument Price           | -         |           |           |           |           | \$ 15,000   | \$ 14,250    | \$ 13,538    | \$ 13,538     |
| Level I/II Instrument Rev.              | -         |           |           |           |           | -           | 1,368,000    | 774,345      | 774,345       |
| Level III/IV Instrument Rev.            | -         |           |           |           |           | -           | 3,491,250    | 6,159,563    | 6,159,563     |
| <b>Hemostasis Instrument Rev.</b>       | -         |           |           |           |           | -           | 4,859,250    | 6,933,908    | 6,933,908     |
| <b>Hemostasis total revenue</b>         | \$0       |           |           |           |           | \$0         | \$0          | \$6,130,768  | \$14,869,296  |
| <b>Other Revenue</b>                    |           |           |           |           |           |             |              |              |               |
| Partner & Grant                         | 750,000   | 250,000   | 250,000   | 250,000   | 250,000   | 1,000,000   | 2,000,000    | 3,000,000    | 4,000,000     |
| International Rev                       | -         | 125,000   | 125,000   | 125,000   | 125,000   | 500,000     | 3,500,000    | 10,000,000   | 20,000,000    |
| <b>Total other revenue</b>              | \$750,000 | \$375,000 | \$375,000 | \$375,000 | \$375,000 | \$1,500,000 | \$5,500,000  | \$13,000,000 | \$24,000,000  |

Source: Company data, Morgan Stanley Research

## Disclosure Section

The information and opinions in Morgan Stanley Research were prepared by Morgan Stanley & Co. LLC, and/or Morgan Stanley C.T.V.M. S.A., and/or Morgan Stanley Mexico, Casa de Bolsa, S.A. de C.V., and/or Morgan Stanley Canada Limited. As used in this disclosure section, "Morgan Stanley" includes Morgan Stanley & Co. LLC, Morgan Stanley C.T.V.M. S.A., Morgan Stanley Mexico, Casa de Bolsa, S.A. de C.V., Morgan Stanley Canada Limited and their affiliates as necessary.

For important disclosures, stock price charts and equity rating histories regarding companies that are the subject of this report, please see the Morgan Stanley Research Disclosure Website at [www.morganstanley.com/researchdisclosures](http://www.morganstanley.com/researchdisclosures), or contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY, 10036 USA.

For valuation methodology and risks associated with any price targets referenced in this research report, please contact the Client Support Team as follows: US/Canada +1 800 303-2495; Hong Kong +852 2848-5999; Latin America +1 718 754-5444 (U.S.); London +44 (0)20-7425-8169; Singapore +65 6834-6860; Sydney +61 (0)2-9770-1505; Tokyo +81 (0)3-6836-9000. Alternatively you may contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY 10036 USA.

### Analyst Certification

The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report: Steve Beuchaw, David Lewis.

Unless otherwise stated, the individuals listed on the cover page of this report are research analysts.

### Global Research Conflict Management Policy

Morgan Stanley Research has been published in accordance with our conflict management policy, which is available at [www.morganstanley.com/institutional/research/conflict/policies](http://www.morganstanley.com/institutional/research/conflict/policies).

### Important US Regulatory Disclosures on Subject Companies

As of September 30, 2014, Morgan Stanley beneficially owned 1% or more of a class of common equity securities of the following companies covered in Morgan Stanley Research: Illumina Inc., Thermo Fisher Scientific Inc..

Within the last 12 months, Morgan Stanley managed or co-managed a public offering (or 144A offering) of securities of **T2 Biosystems Inc**, Thermo Fisher Scientific Inc..

Within the last 12 months, Morgan Stanley has received compensation for investment banking services from **T2 Biosystems Inc**, Thermo Fisher Scientific Inc..

In the next 3 months, Morgan Stanley expects to receive or intends to seek compensation for investment banking services from Agilent Technologies, Inc., Illumina Inc., PerkinElmer Inc., **T2 Biosystems Inc**, Thermo Fisher Scientific Inc., Waters Corp..

Within the last 12 months, Morgan Stanley has received compensation for products and services other than investment banking services from Agilent Technologies, Inc., Illumina Inc., Thermo Fisher Scientific Inc..

Within the last 12 months, Morgan Stanley has provided or is providing investment banking services to, or has an investment banking client relationship with, the following company: Agilent Technologies, Inc., Illumina Inc., PerkinElmer Inc., **T2 Biosystems Inc**, Thermo Fisher Scientific Inc., Waters Corp..

Within the last 12 months, Morgan Stanley has either provided or is providing non-investment banking, securities-related services to and/or in the past has entered into an agreement to provide services or has a client relationship with the following company: Agilent Technologies, Inc., Illumina Inc., Thermo Fisher Scientific Inc..

Morgan Stanley & Co. LLC makes a market in the securities of Agilent Technologies, Inc., Illumina Inc., PerkinElmer Inc., Thermo Fisher Scientific Inc., Waters Corp..

The equity research analysts or strategists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality of research, investor client feedback, stock picking, competitive factors, firm revenues and overall investment banking revenues.

Morgan Stanley and its affiliates do business that relates to companies/instruments covered in Morgan Stanley Research, including market making, providing liquidity and specialized trading, risk arbitrage and other proprietary trading, fund management, commercial banking, extension of credit, investment services and investment banking. Morgan Stanley sells to and buys from customers the securities/instruments of companies covered in Morgan Stanley Research on a principal basis. Morgan Stanley may have a position in the debt of the Company or instruments discussed in this report.

Certain disclosures listed above are also for compliance with applicable regulations in non-US jurisdictions.

### STOCK RATINGS

Morgan Stanley uses a relative rating system using terms such as Overweight, Equal-weight, Not-Rated or Underweight (see definitions below). Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold and sell. Investors should carefully read the definitions of all ratings used in Morgan Stanley Research. In addition, since Morgan Stanley Research contains more complete information concerning the analyst's views, investors should carefully read Morgan Stanley Research, in its entirety, and not infer the contents from the rating alone. In any case, ratings (or research) should not be used or relied upon as investment advice. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations.

### Global Stock Ratings Distribution

(as of October 31, 2014)

For disclosure purposes only (in accordance with NASD and NYSE requirements), we include the category headings of Buy, Hold, and Sell alongside our ratings of Overweight, Equal-weight, Not-Rated and Underweight. Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover.

Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold, and sell but represent recommended relative weightings (see definitions below). To satisfy regulatory requirements, we correspond Overweight, our most positive stock rating, with a buy recommendation; we correspond Equal-weight and Not-Rated to hold and Underweight to sell recommendations, respectively.

| STOCK RATING CATEGORY    | COVERAGE UNIVERSE |            | INVESTMENT BANKING CLIENTS (IBC) |                |                     |
|--------------------------|-------------------|------------|----------------------------------|----------------|---------------------|
|                          | COUNT             | % OF TOTAL | COUNT                            | % OF TOTAL IBC | % OF RATED CATEGORY |
| <b>Overweight/Buy</b>    | <b>1157</b>       | <b>36%</b> | <b>357</b>                       | <b>41%</b>     | <b>31%</b>          |
| <b>Equal-weight/Hold</b> | <b>1396</b>       | <b>43%</b> | <b>403</b>                       | <b>46%</b>     | <b>29%</b>          |
| <b>Not-Rated/Hold</b>    | <b>107</b>        | <b>3%</b>  | <b>19</b>                        | <b>2%</b>      | <b>18%</b>          |
| <b>Underweight/Sell</b>  | <b>582</b>        | <b>18%</b> | <b>100</b>                       | <b>11%</b>     | <b>17%</b>          |
| <b>TOTAL</b>             | <b>3,242</b>      |            | <b>879</b>                       |                |                     |

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months.

### Analyst Stock Ratings

Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Not-Rated (NR). Currently the analyst does not have adequate conviction about the stock's total return relative to the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U). The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

### Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.

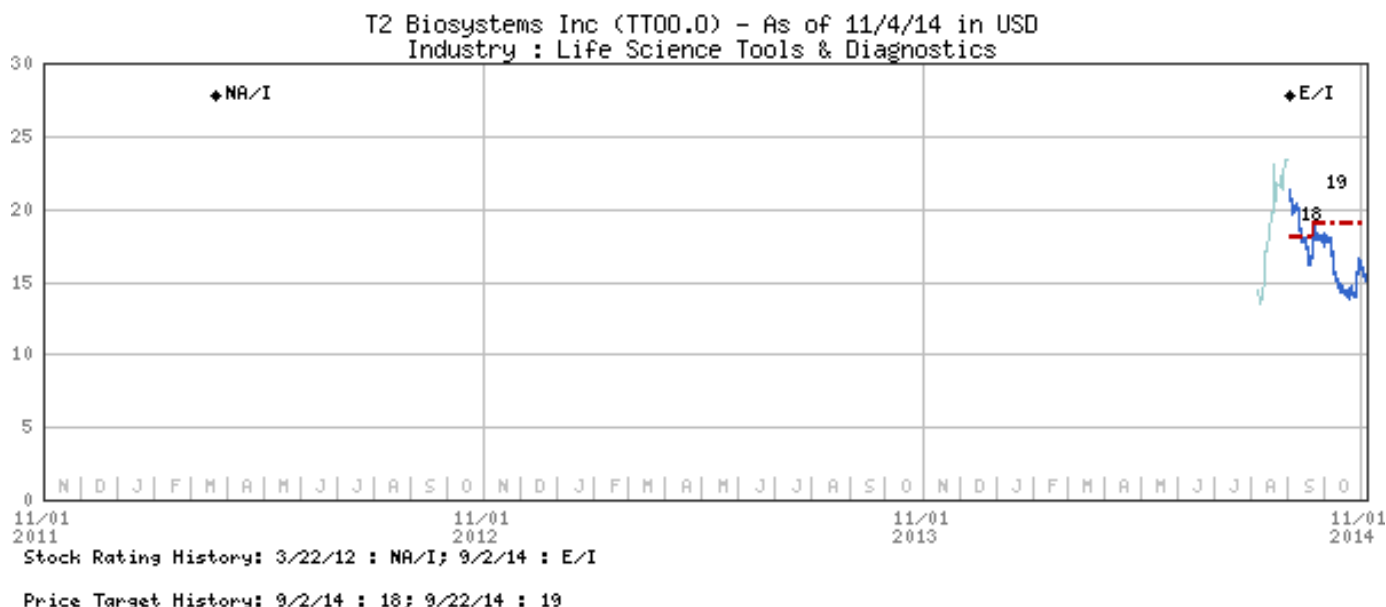
In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.

Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below.

Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

### Stock Price, Price Target and Rating History (See Rating Definitions)





Source: Morgan Stanley Research      Date Format : MM/DD/YY      Price Target --      No Price Target Assigned (NA)

Stock Price (Not Covered by Current Analyst) — Stock Price (Covered by Current Analyst) —

Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View

Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)

Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

Effective January 13, 2014, the stocks covered by Morgan Stanley Asia Pacific will be rated relative to the analyst's industry (or industry team's) coverage.

Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

## Important Disclosures for Morgan Stanley Smith Barney LLC Customers

Important disclosures regarding the relationship between the companies that are the subject of Morgan Stanley Research and Morgan Stanley Smith Barney LLC or Morgan Stanley or any of their affiliates, are available on the Morgan Stanley Wealth Management disclosure website at [www.morganstanley.com/online/researchdisclosures](http://www.morganstanley.com/online/researchdisclosures). For Morgan Stanley specific disclosures, you may refer to [www.morganstanley.com/researchdisclosures](http://www.morganstanley.com/researchdisclosures).

Each Morgan Stanley Equity Research report is reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval is conducted by the same person who reviews the Equity Research report on behalf of Morgan Stanley. This could create a conflict of interest.

## Other Important Disclosures

Morgan Stanley & Co. International PLC and its affiliates have a significant financial interest in the debt securities of Agilent Technologies, Inc., PerkinElmer Inc., Thermo Fisher Scientific Inc..

Morgan Stanley is not acting as a municipal advisor and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

Morgan Stanley produces an equity research product called a "Tactical Idea." Views contained in a "Tactical Idea" on a particular stock may be contrary to the recommendations or views expressed in research on the same stock. This may be the result of differing time horizons, methodologies, market events, or other factors. For all research available on a particular stock, please contact your sales representative or go to Matrix at <http://www.morganstanley.com/matrix>.

Morgan Stanley Research is provided to our clients through our proprietary research portal on Matrix and also distributed electronically by Morgan Stanley to clients. Certain, but not all, Morgan Stanley Research products are also made available to clients through third-party vendors or redistributed to clients through alternate electronic means as a convenience. For access to all available Morgan Stanley Research, please contact your sales representative or go to Matrix at <http://www.morganstanley.com/matrix>.

Any access and/or use of Morgan Stanley Research is subject to Morgan Stanley's Terms of Use (<http://www.morganstanley.com/terms.html>). By accessing and/or using Morgan Stanley Research, you are indicating that you have read and agree to be bound by our Terms of Use (<http://www.morganstanley.com/terms.html>). In addition you consent to Morgan Stanley processing your personal data and using cookies in accordance with our Privacy Policy and our Global Cookies Policy ([http://www.morganstanley.com/privacy\\_pledge.html](http://www.morganstanley.com/privacy_pledge.html)), including for the purposes of setting your preferences and to collect readership data so that we can deliver better and more personalized service and products to you. To find out more information about how Morgan Stanley processes personal data, how we use cookies and how to reject cookies see our Privacy Policy and our Global Cookies Policy ([http://www.morganstanley.com/privacy\\_pledge.html](http://www.morganstanley.com/privacy_pledge.html)).

If you do not agree to our Terms of Use and/or if you do not wish to provide your consent to Morgan Stanley processing your personal data or using cookies please do not access our research.

Morgan Stanley Research does not provide individually tailored investment advice. Morgan Stanley Research has been prepared without regard to the circumstances and objectives of those who receive it. Morgan Stanley recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a financial adviser. The appropriateness of an investment or strategy will depend on an investor's circumstances and objectives. The securities, instruments, or strategies discussed in Morgan Stanley Research may not be suitable for all investors, and certain investors may not be eligible to purchase or participate in some or all of them. Morgan Stanley Research is not an offer to buy or sell or the solicitation of an offer to buy or sell any security/instrument or to participate in any particular trading strategy. The value of and income from your investments may vary because of changes in interest rates, foreign exchange rates, default rates, prepayment rates, securities/instruments prices, market

indexes, operational or financial conditions of companies or other factors. There may be time limitations on the exercise of options or other rights in securities/instruments transactions. Past performance is not necessarily a guide to future performance. Estimates of future performance are based on assumptions that may not be realized. If provided, and unless otherwise stated, the closing price on the cover page is that of the primary exchange for the subject company's securities/instruments.

The fixed income research analysts, strategists or economists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality, accuracy and value of research, firm profitability or revenues (which include fixed income trading and capital markets profitability or revenues), client feedback and competitive factors. Fixed Income Research analysts', strategists' or economists' compensation is not linked to investment banking or capital markets transactions performed by Morgan Stanley or the profitability or revenues of particular trading desks.

The "Important US Regulatory Disclosures on Subject Companies" section in Morgan Stanley Research lists all companies mentioned where Morgan Stanley owns 1% or more of a class of common equity securities of the companies. For all other companies mentioned in Morgan Stanley Research, Morgan Stanley may have an investment of less than 1% in securities/instruments or derivatives of securities/instruments of companies and may trade them in ways different from those discussed in Morgan Stanley Research. Employees of Morgan Stanley not involved in the preparation of Morgan Stanley Research may have investments in securities/instruments or derivatives of securities/instruments of companies mentioned and may trade them in ways different from those discussed in Morgan Stanley Research. Derivatives may be issued by Morgan Stanley or associated persons.

With the exception of information regarding Morgan Stanley, Morgan Stanley Research is based on public information. Morgan Stanley makes every effort to use reliable, comprehensive information, but we make no representation that it is accurate or complete. We have no obligation to tell you when opinions or information in Morgan Stanley Research change apart from when we intend to discontinue equity research coverage of a subject company. Facts and views presented in Morgan Stanley Research have not been reviewed by, and may not reflect information known to, professionals in other Morgan Stanley business areas, including investment banking personnel.

Morgan Stanley Research personnel may participate in company events such as site visits and are generally prohibited from accepting payment by the company of associated expenses unless pre-approved by authorized members of Research management.

Morgan Stanley may make investment decisions or take proprietary positions that are inconsistent with the recommendations or views in this report.

To our readers in Taiwan: Information on securities/instruments that trade in Taiwan is distributed by Morgan Stanley Taiwan Limited ("MSTL"). Such information is for your reference only. The reader should independently evaluate the investment risks and is solely responsible for their investment decisions.

Morgan Stanley Research may not be distributed to the public media or quoted or used by the public media without the express written consent of Morgan Stanley. Information on securities/instruments that do not trade in Taiwan is for informational purposes only and is not to be construed as a recommendation or a solicitation to trade in such securities/instruments. MSTL may not execute transactions for clients in these securities/instruments. To our readers in Hong Kong: Information is distributed in Hong Kong by and on behalf of, and is attributable to, Morgan Stanley Asia Limited as part of its regulated activities in Hong Kong. If you have any queries concerning Morgan Stanley Research, please contact our Hong Kong sales representatives.

Morgan Stanley is not incorporated under PRC law and the research in relation to this report is conducted outside the PRC. Morgan Stanley Research does not constitute an offer to sell or the solicitation of an offer to buy any securities in the PRC. PRC investors shall have the relevant qualifications to invest in such securities and shall be responsible for obtaining all relevant approvals, licenses, verifications and/or registrations from the relevant governmental authorities themselves.

Morgan Stanley Research is disseminated in Brazil by Morgan Stanley C.T.V.M. S.A.; in Japan by Morgan Stanley MUFG Securities Co., Ltd. and, for Commodities related research reports only, Morgan Stanley Capital Group Japan Co., Ltd; in Hong Kong by Morgan Stanley Asia Limited (which accepts responsibility for its contents) and by Bank Morgan Stanley AG, Hong Kong Branch; in Singapore by Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z) and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H), regulated by the Monetary Authority of Singapore (which accepts legal responsibility for its contents and should be contacted with respect to any matters arising from, or in connection with, Morgan Stanley Research) and by Bank Morgan Stanley AG, Singapore Branch (Registration number T11FC0207F); in Australia to "wholesale clients" within the meaning of the Australian Corporations Act by Morgan Stanley Australia Limited A.B.N. 67 003 734 576, holder of Australian financial services license No. 233742, which accepts responsibility for its contents; in Australia to "wholesale clients" and "retail clients" within the meaning of the Australian Corporations Act by Morgan Stanley Wealth Management Australia Pty Ltd (A.B.N. 19 009 145 555, holder of Australian financial services license No. 240813, which accepts responsibility for its contents; in Korea by Morgan Stanley & Co International plc, Seoul Branch; in India by Morgan Stanley India Company Private Limited; in Indonesia by PT Morgan Stanley Asia Indonesia; in Canada by Morgan Stanley Canada Limited, which has approved of and takes responsibility for its contents in Canada; in Germany by Morgan Stanley Bank AG, Frankfurt am Main and Morgan Stanley Private Wealth Management Limited, Niederlassung Deutschland, regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin); in Spain by Morgan Stanley, S.V., S.A., a Morgan Stanley group company, which is supervised by the Spanish Securities Markets Commission (CNMV) and states that Morgan Stanley Research has been written and distributed in accordance with the rules of conduct applicable to financial research as established under Spanish regulations; in the US by Morgan Stanley & Co. LLC, which accepts responsibility for its contents. Morgan Stanley & Co. International plc, authorized by the Prudential Regulatory Authority and regulated by the Financial Conduct Authority and the Prudential Regulatory Authority, disseminates in the UK research that it has prepared, and approves solely for the purposes of section 21 of the Financial Services and Markets Act 2000, research which has been prepared by any of its affiliates. Morgan Stanley Private Wealth Management Limited, authorized and regulated by the Financial Conduct Authority, also disseminates Morgan Stanley Research in the UK. Private UK investors should obtain the advice of their Morgan Stanley & Co. International plc or Morgan Stanley Private Wealth Management representative about the investments concerned. RMB Morgan Stanley (Proprietary) Limited is a member of the JSE Limited and regulated by the Financial Services Board in South Africa. RMB Morgan Stanley (Proprietary) Limited is a joint venture owned equally by Morgan Stanley International Holdings Inc. and RMB Investment Advisory (Proprietary) Limited, which is wholly owned by FirstRand Limited.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (DIFC Branch), regulated by the Dubai Financial Services Authority (the DFSA), and is directed at Professional Clients only, as defined by the DFSA. The financial products or financial services to which this research relates will only be made available to a customer who we are satisfied meets the regulatory criteria to be a Professional Client.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (QFC Branch), regulated by the Qatar Financial Centre Regulatory Authority (the QFCRA), and is directed at business customers and market counterparties only and is not intended for Retail Customers as defined by the QFCRA.

As required by the Capital Markets Board of Turkey, investment information, comments and recommendations stated here, are not within the scope of investment advisory activity. Investment advisory service is provided exclusively to persons based on their risk and income preferences by the authorized firms. Comments and recommendations stated here are general in nature. These opinions may not fit to your financial status, risk and return preferences. For this reason, to make an investment decision by relying solely to this information stated here may not bring about outcomes that fit your expectations.

The trademarks and service marks contained in Morgan Stanley Research are the property of their respective owners. Third-party data providers make no warranties or representations relating to the accuracy, completeness, or timeliness of the data they provide and shall not have liability for any damages relating to such data. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and S&P. Morgan Stanley Research or portions of it may not be reprinted, sold or redistributed without the written consent of Morgan Stanley.

Morgan Stanley Research, or any portion thereof may not be reprinted, sold or redistributed without the written consent of Morgan Stanley.



## INDUSTRY COVERAGE: Life Science Tools &amp; Diagnostics

| COMPANY (TICKER)                      | RATING (AS OF) | PRICE* (11/04/2014) |
|---------------------------------------|----------------|---------------------|
| <b>David R. Lewis</b>                 |                |                     |
| T2 Biosystems Inc (TTOO.O)            | E (09/02/2014) | \$15.04             |
| <b>Steve Beuchaw</b>                  |                |                     |
| Agilent Technologies, Inc. (AN)       | E (09/08/2014) | \$40.18             |
| Illumina Inc. (ILMN.O)                | E (09/08/2014) | \$191.41            |
| PerkinElmer Inc. (PKI.N)              | O (09/08/2014) | \$44.08             |
| Thermo Fisher Scientific Inc. (TMO.N) | O (09/08/2014) | \$118.32            |
| Waters Corp. (WAT.N)                  | U (09/08/2014) | \$111.91            |

Stock Ratings are subject to change. Please see latest research for each company.

\* Historical prices are not split adjusted.

© 2014 Morgan Stanley