



# WORLD PREVIEW 2014, OUTLOOK TO 2020

## Welcome to the EvaluateMedTech® World Preview 2014, Outlook to 2020

EvaluateMedTech® provides trusted insights on the global medtech sector in a single solution that can easily integrate with your own analytical models. It allows medtech companies, financial institutions, consultancies, service providers and others to easily and rapidly track, benchmark and forecast the sector and focus on critical decisions to optimize performance.

Our third annual EvaluateMedTech® World Preview brings together many of our analyses to provide a top level insight into the expected performance of the medtech industry between now and 2020. Based on EvaluateMedTech®'s coverage of the world's leading medical device and diagnostic companies, the World Preview highlights trends in medtech including: consensus sales forecasts of leading industry analysts by device area to 2020; the top 20 companies in 2020; R&D spend current and future; FDA approvals; M&A; venture financing; IPOs; and enterprise value.

To find out more about this report and Evaluate's range of services for the life science sector please contact us:

- **North America:**  
Alan Raider  
Tel: +1 617 573 9455  
Email: alan.raider@evaluategroup.com
  
- **Rest of the World:**  
Will Hau  
Tel: +44 (0)20 7377 0800  
Email: will.hau@evaluategroup.com
  
- **Japan:**  
Hiroshi Yamazaki  
Tel: + 81 (0) 80 1164 4754  
Email: hiroshi.yamazaki@evaluategroup.com
  
- **For general questions:**  
Christine Lindgren  
Tel: +1 617 866 3906  
Email: christine.lindgren@evaluategroup.com

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# EvaluateMedTech®

## Foreword



The third edition of the EvaluateMedTech® World Preview reveals that the medtech market is expected to grow at 5% per year (CAGR) between 2013 and 2020, achieving global sales of \$514bn in 2020 (page 6). The analysis is based on in-depth forecast models for the top 200 global medtech companies available within EvaluateMedTech®. Our sales forecast represents the only current consensus view from equity analysts of the medtech market.

### J&J leads – for now

October 2014 finds the medtech industry holding its breath. The year to date has been a fascinating one, with a remarkable 363% increase in the value of completed mergers in H1 2014 compared with the same time last year (page 18) – but things are about to get a lot more interesting.

The single biggest merger in the sector's history is set to close early next year, and when Medtronic and Covidien join forces the changes will be seismic. The World Preview uses consensus data based on analyst forecasts which do not as yet take this merger into account as the \$42.9bn deal has not yet closed. Consequently, current forecasts put Johnson & Johnson as clear market leader in 2020 with medtech sales of \$32.8bn. But if it does engulf Covidien, Medtronic will seize the top spot.

The \$13.4bn merger of Zimmer and Biomet will also contribute to a momentous year for medtech, altering the orthopedics sector profoundly.

### FDA premarket approvals pick up

The regulatory situation is changing significantly too. After a disappointing 2013 in terms of first-time premarket approvals (PMAs) granted by the FDA, the agency has been more liberal so far in 2014, with 20 new PMAs to end of August (page 12). This is a 43% increase compared with the same point last year, and ties in with deliberate efforts the FDA is making to speed devices to market, such as streamlining the de novo regulatory process and a proposed expedited access PMA programme.

### A billion dollars in IPOs

While the ultimate goal for many early-stage medtech companies is still a takeout by one of the bigger groups, staying independent and going public has emerged as an increasingly popular strategy. EvaluateMedTech®'s new IPO analysis, available this year for the first time, shows that the first half of 2014 saw \$1.3bn raised in completed IPOs (page 20). This is 44% more than the \$900m raised in the whole of 2013.

The global medical device market is growing fast and changing faster; the cardiology and orthopedic spaces alone are set to alter almost beyond recognition thanks to the megamergers. This time next year there could be a new market leader, and in an industry forecast to be worth more than half a trillion dollars in 2020, that is no insignificant achievement.



**Ian Strickland**

Product Manager, EvaluateMedTech®

# EvaluateMedTech® World Preview 2014, Outlook to 2020 – Analysis Highlights

- Worldwide medtech sales forecast to grow by 5.0% (CAGR 2013 to 2020), reaching \$514bn – more than half a trillion dollars – by 2020
- Medtech will grow more slowly compared with the prescription drug market, with a CAGR of 5.0% compared with pharma's 5.3% between 2013 and 2020
- Johnson & Johnson is currently forecast to be the clear market leader in 2020 with medtech sales of \$32.8bn...
- ...but if the proposed merger between Medtronic and Covidien goes ahead as expected, combined forecasts will put the "new" Medtronic at the top
- M&A deal value jumps by an astonishing 363% to \$30bn in H1 2014 vs. H1 2013, though deal count drops 10%
- Total deal value of medtech venture financing falls 16% to \$2.2bn in H1 2014 vs. H1 2013; number of venture financing deals slumped 24% to 199
- Significant increase in medtech IPO activity in 2014. H1 2014 saw \$1.3bn raised in completed IPOs, 44% more than the \$900m raised in the whole of 2013
- In vitro diagnostics expected to be the world's largest medtech segment in 2020, with sales of \$71.6bn, with Roche to dominate with 17.0% market share in 2020
- Medtronic remains top in cardiology to 2020 with sales of \$11.1bn, a 19.4% market share. Lead set to increase following addition of Covidien
- Johnson & Johnson continues to lead the orthopedics market with 2020 market share of 24.7% and sales of \$11.3bn...
- ...but following completion of its acquisition of Biomet, Zimmer is set to catch up, leapfrogging Stryker to take second place with a market share of 20.8% in 2020
- Global medtech R&D spend set to grow by 4.2% (CAGR) to \$30.5bn by 2020
- Johnson & Johnson and Siemens predicted to be neck and neck as the top medtech R&D spenders in 2020, with both set to invest \$2.1bn in new programmes
- FDA grants 23 first-time PMAs in 2013, a massive decrease of 44% from the 2012 figure of 41; 510(k) clearances also down, by 3% to 3,085...
- ...but the situation reverses in 2014, with 20 new PMAs to end of August, representing a 43% increase compared with the same point last year

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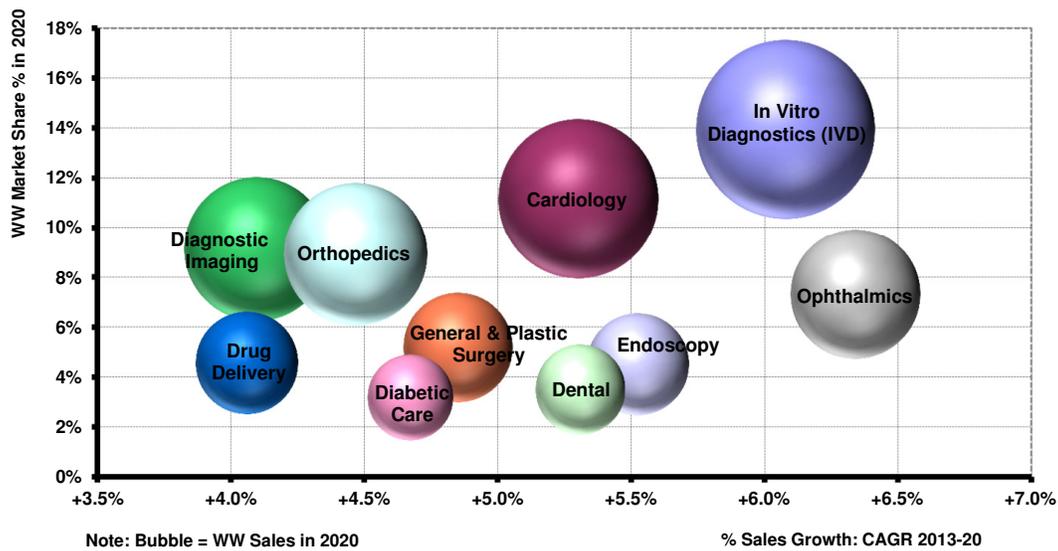
## Worldwide Medtech Sales Forecast to Exceed Half a Trillion Dollars by 2020; In Vitro Diagnostics Remains Number One in 2020

EvaluateMedTech® finds that the worldwide medtech market is forecast to grow by 5.0% per year (CAGR) between 2013 and 2020, achieving sales of \$514bn in 2020.

As in previous years, EvaluateMedTech® finds that in vitro diagnostics (IVD) is expected to remain the largest segment in 2020 with sales of \$71.6bn, representing 14% of the worldwide medtech market. Impressively, the IVD market is also set to outpace the medtech market as a whole, growing by 6.1% per year over the same timeframe.

The fastest growing segment in the top 15 is neurology, with a 7.1% CAGR between 2013 and 2020 and expected 2020 sales of \$9.8bn.

**Analysis on Top 10 Device Areas in 2020, Market Share & Sales Growth (2013-20)**  
Source: EvaluateMedTech® (18 SEP 2014)



## WW Medtech Sales by EvaluateMedTech® Device Area: Top 15 Categories & Total Market (2013/20)

| Device Area                      | WW Sales (\$bn) |              | CAGR<br>% Growth | WW Market Share |               |               | Rank<br>Chg. (+/-) |
|----------------------------------|-----------------|--------------|------------------|-----------------|---------------|---------------|--------------------|
|                                  | 2013            | 2020         |                  | 2013            | 2020          | Chg. (+/-)    |                    |
| 1 In Vitro Diagnostics (IVD)     | 47.4            | 71.6         | +6.1%            | 13.0%           | 14.0%         | +0.9pp        | -                  |
| 2 Cardiology                     | 39.9            | 57.3         | +5.3%            | 11.0%           | 11.2%         | +0.2pp        | -                  |
| 3 Diagnostic Imaging             | 35.5            | 47.0         | +4.1%            | 9.8%            | 9.1%          | -0.6pp        | -                  |
| 4 Orthopedics                    | 33.8            | 45.9         | +4.5%            | 9.3%            | 8.9%          | -0.4pp        | -                  |
| 5 Ophthalmics                    | 24.5            | 37.7         | +6.3%            | 6.7%            | 7.3%          | +0.6pp        | -                  |
| 6 General & Plastic Surgery      | 19.1            | 26.7         | +4.9%            | 5.3%            | 5.2%          | -0.1pp        | -                  |
| 7 Drug Delivery                  | 17.8            | 23.5         | +4.1%            | 4.9%            | 4.6%          | -0.3pp        | -                  |
| 8 Endoscopy                      | 15.9            | 23.2         | +5.5%            | 4.4%            | 4.5%          | +0.1pp        | -                  |
| 9 Dental                         | 12.5            | 18.0         | +5.3%            | 3.4%            | 3.5%          | +0.1pp        | -                  |
| 10 Diabetic Care                 | 11.9            | 16.4         | +4.7%            | 3.3%            | 3.2%          | -0.1pp        | +1                 |
| 11 Wound Management              | 12.0            | 16.0         | +4.2%            | 3.3%            | 3.1%          | -0.2pp        | -1                 |
| 12 Nephrology                    | 11.1            | 14.9         | +4.3%            | 3.0%            | 2.9%          | -0.1pp        | -                  |
| 13 General Hospital & Healthcare | 8.3             | 10.8         | +4.0%            | 2.3%            | 2.1%          | -0.2pp        | -                  |
| 14 Ear, Nose & Throat (ENT)      | 7.2             | 10.8         | +6.1%            | 2.0%            | 2.1%          | +0.1pp        | -                  |
| 15 Neurology                     | 6.1             | 9.8          | +7.1%            | 1.7%            | 1.9%          | +0.2pp        | +2                 |
| <b>Top 15</b>                    | <b>303.0</b>    | <b>429.7</b> | <b>+5.1%</b>     | <b>83.3%</b>    | <b>83.7%</b>  | <b>+0.4pp</b> |                    |
| <b>Other</b>                     | <b>60.7</b>     | <b>83.8</b>  | <b>+4.7%</b>     | <b>16.7%</b>    | <b>16.3%</b>  | <b>-0.4pp</b> |                    |
| <b>Total WW Medtech Sales</b>    | <b>363.8</b>    | <b>513.5</b> | <b>+5.0%</b>     | <b>100.0%</b>   | <b>100.0%</b> |               |                    |

Source: EvaluateMedTech® (18 SEP 2014)

**Note:** Analysis is based on the top 200 medtech companies. Sales in 2013 based on company reported data. Sales forecasts to 2020 based on a consensus of leading equity analysts' estimates for segmental sales.



# Worldwide Medtech Sales in 2020: Top 20 Companies

## Johnson & Johnson Predicted to be Number One in 2020 - But This Could Change

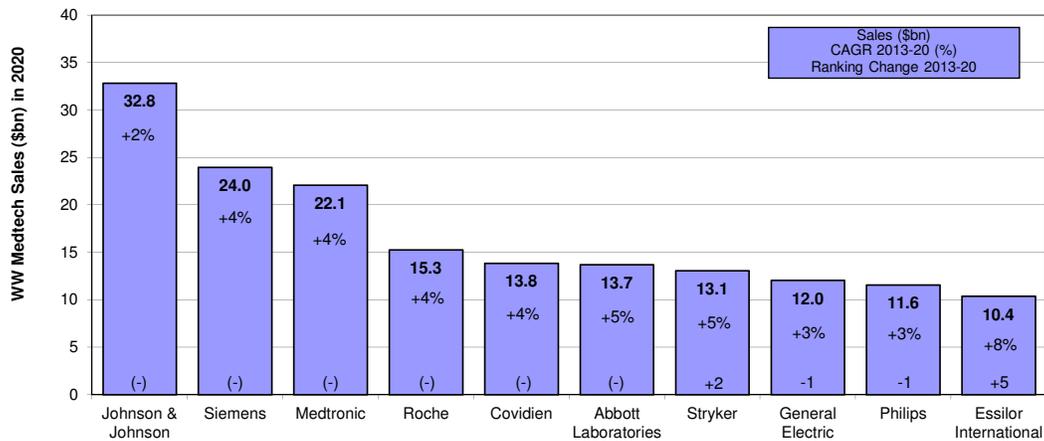
EvaluateMedTech® finds that Johnson & Johnson is currently forecast to be the largest medtech company in 2020, with sales of \$32.8bn. However, the company's market share is expected to fall from 7.8% to 6.4% between 2013 and 2020 following the sale of its Ortho-Clinical Diagnostics unit to private equity.

Moreover, current forecasts do not take into account the proposed megamerger of Medtronic and Covidien. With estimated combined sales of \$35.9bn in 2020, representing a 7.0% market share, when predictions are made next year it is likely that this new behemoth of medtech will take the top spot from Johnson & Johnson.

The biggest fallers in the rankings out to 2020 are Boston Scientific and Novartis. Novartis falls four places to number 16, largely due to the disposal of its blood diagnostic business in 2014 to Grifols. Boston Scientific falling four places to number 14 reflects the company failing to replace sales from its mature cardiology business.

**WW Medtech Sales: Top 10 Companies (2020)**

Source: EvaluateMedTech® (18 SEP 2014)



**WW Medtech Sales: Top 20 Companies & Total Market (2013/20)**

| Company                  | Country         | WW Medtech Sales (\$bn) |       |              | WW Market Share |        |            | Rank Chg. (+/-) |
|--------------------------|-----------------|-------------------------|-------|--------------|-----------------|--------|------------|-----------------|
|                          |                 | 2013                    | 2020  | % CAGR 13-20 | 2013            | 2020   | Chg. (+/-) |                 |
| 1 Johnson & Johnson      | USA             | 28.5                    | 32.8  | +2.0%        | 7.8%            | 6.4%   | -1.4pp     | -               |
| 2 Siemens                | Germany         | 17.9                    | 24.0  | +4.3%        | 4.9%            | 4.7%   | -0.2pp     | -               |
| 3 Medtronic              | USA             | 17.0                    | 22.1  | +3.8%        | 4.7%            | 4.3%   | -0.4pp     | -               |
| 4 Roche                  | Switzerland     | 11.3                    | 15.3  | +4.4%        | 3.1%            | 3.0%   | -0.1pp     | -               |
| 5 Covidien               | USA             | 10.2                    | 13.8  | +4.4%        | 2.8%            | 2.7%   | -0.1pp     | -               |
| 6 Abbott Laboratories    | USA             | 9.9                     | 13.7  | +4.8%        | 2.7%            | 2.7%   | -0.0pp     | -               |
| 7 Stryker                | USA             | 9.0                     | 13.1  | +5.4%        | 2.5%            | 2.5%   | +0.1pp     | +2              |
| 8 General Electric       | USA             | 9.8                     | 12.0  | +3.0%        | 2.7%            | 2.3%   | -0.3pp     | -1              |
| 9 Philips                | The Netherlands | 9.4                     | 11.6  | +3.0%        | 2.6%            | 2.3%   | -0.3pp     | -1              |
| 10 Essilor International | France          | 6.0                     | 10.4  | +8.2%        | 1.6%            | 2.0%   | +0.4pp     | +5              |
| 11 Danaher               | USA             | 7.0                     | 9.6   | +4.7%        | 1.9%            | 1.9%   | -0.0pp     | -               |
| 12 Becton Dickinson      | USA             | 7.0                     | 9.4   | +4.4%        | 1.9%            | 1.8%   | -0.1pp     | +1              |
| 13 Baxter International  | USA             | 5.8                     | 9.3   | +7.0%        | 1.6%            | 1.8%   | +0.2pp     | +3              |
| 14 Boston Scientific     | USA             | 7.1                     | 9.3   | +3.8%        | 2.0%            | 1.8%   | -0.2pp     | -4              |
| 15 B. Braun Melsungen    | Germany         | 6.9                     | 9.2   | +4.3%        | 1.9%            | 1.8%   | -0.1pp     | -1              |
| 16 Novartis              | Switzerland     | 7.0                     | 9.0   | +3.8%        | 1.9%            | 1.8%   | -0.2pp     | -4              |
| 17 Olympus               | Japan           | 4.9                     | 8.0   | +7.2%        | 1.4%            | 1.6%   | +0.2pp     | +2              |
| 18 St. Jude Medical      | USA             | 5.5                     | 7.5   | +4.6%        | 1.5%            | 1.5%   | -0.0pp     | -1              |
| 19 3M                    | USA             | 5.1                     | 7.1   | +4.8%        | 1.4%            | 1.4%   | -0.0pp     | -1              |
| 20 Smith & Nephew        | United Kingdom  | 4.4                     | 6.4   | +5.7%        | 1.2%            | 1.2%   | +0.1pp     | +2              |
| <b>Total Top 20</b>      |                 | 189.6                   | 253.5 | +4.2%        | 52.1%           | 49.4%  | -2.7pp     |                 |
| <b>Other</b>             |                 | 174.2                   | 260.0 | +5.9%        | 47.9%           | 50.6%  | +2.7pp     |                 |
| <b>Total</b>             |                 | 363.8                   | 513.5 | +5.0%        | 100.0%          | 100.0% |            |                 |

Source: EvaluateMedTech® (18 SEP 2014)

**Note:** Analysis is based on the top 200 medtech companies. Sales in 2013 based on company reported data. Sales forecasts to 2020 based on a consensus of leading equity analysts' estimates for segmental sales.



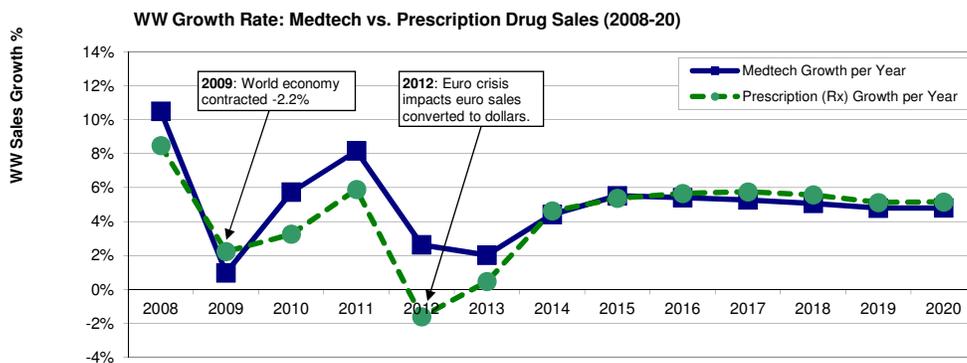
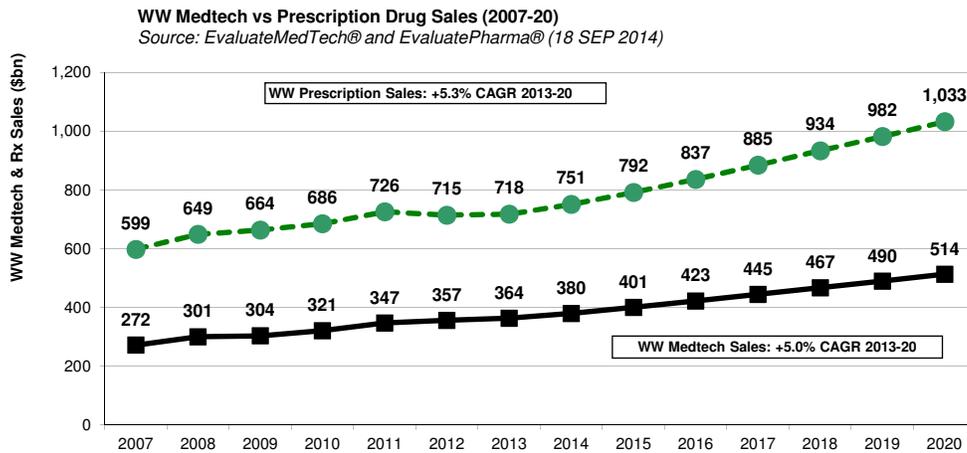
# Worldwide Medtech vs. Prescription Drug Sales (2007-20)

## Prescription Drug Market Forecast to Outstrip Medtech between 2013 and 2020

EvaluateMedTech® finds that between 2013 and 2020 the prescription drug market is forecast to grow at 5.3% per year (CAGR), greater than the medtech industry's forecast 5.0%. This is in stark contrast to the period 2010 to 2013 when the medtech sector grew much more rapidly than pharma.

In the last two EvaluateMedTech® World Previews, the medtech industry had also been forecast to outstrip the pharma market in the future. With the passing of the pharma patent cliff and a resurgence in confidence in the pharmaceutical and biotech industry, however, the prescription drug market has moved ahead.

In 2014 and from 2016 onwards prescription drugs are forecast to grow faster than medtech. This results in the medtech market falling to 49.7% of the prescription drug market in 2020, versus 50.7% in 2013.



## WW Medtech vs. Prescription Drug Sales (2007-20)

|                      | WW Sales (\$bn) |        |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------------|-----------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                      | Year            | 2007   | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  |
| WW Medtech Sales     | 272             | 301    | 304   | 321   | 347   | 357   | 364   | 380   | 401   | 423   | 445   | 467   | 490   | 514   |
| Growth per Year      |                 | +10.5% | +1.0% | +5.7% | +8.2% | +2.6% | +2.0% | +4.4% | +5.5% | +5.4% | +5.3% | +5.1% | +4.8% | +4.8% |
| Medtech as % of Rx   | 45.5%           | 46.3%  | 45.7% | 46.8% | 47.8% | 49.9% | 50.7% | 50.6% | 50.6% | 50.5% | 50.3% | 50.0% | 49.9% | 49.7% |
| WW Prescription (Rx) | 599             | 649    | 664   | 686   | 726   | 715   | 718   | 751   | 792   | 837   | 885   | 934   | 982   | 1,033 |
| Growth per Year      |                 | +8.5%  | +2.2% | +3.3% | +5.9% | -1.6% | +0.5% | +4.6% | +5.4% | +5.7% | +5.8% | +5.6% | +5.1% | +5.2% |

Source: EvaluateMedTech® (18 SEP 2014)

|                            | CAGR 2013-20 |
|----------------------------|--------------|
| WW Medtech Sales           | +5.0%        |
| WW Prescription Drug Sales | +5.3%        |

**Note:** Prescription drug sales based on top 500 pharmaceutical and biotech companies from EvaluatePharma®. Sales to 2013 based on company reported sales data. Sales forecasts to 2020 based on a consensus of leading equity analysts' estimates for segmental sales.

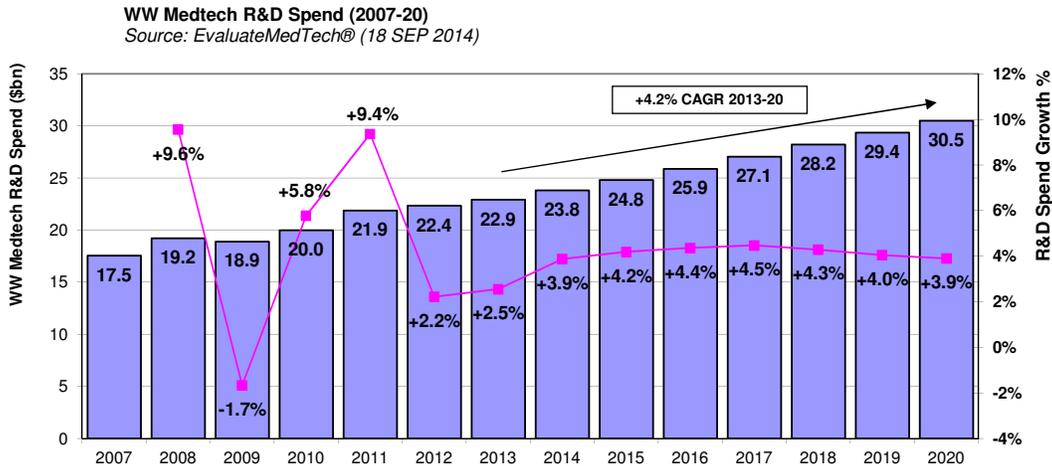


# Worldwide Medtech R&D Spend (2007-20)

## Global Medtech R&D Spend Set to Grow by 4.2% (CAGR) to \$30.5bn by 2020

EvaluateMedTech® consensus forecasts find that worldwide medtech R&D spend is set to increase by 4.2% per year (CAGR) between 2013 and 2020. This is lower than the forecast growth rate for medtech sales and, as such, R&D investment rate is forecast to fall to 5.9% in 2020 from 6.3% in 2013.

The top 20 medtech companies, however, are spending slightly more than the medtech industry as a whole: in 2020 they will invest 7.7% of their sales on R&D.



## WW Medtech R&D Spend (2007-20)

| WW Medtech R&D & Medtech Sales (\$bn)      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Year                                       | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  |
| Medtech R&D Spend                          | 17.5  | 19.2  | 18.9  | 20.0  | 21.9  | 22.4  | 22.9  | 23.8  | 24.8  | 25.9  | 27.1  | 28.2  | 29.4  | 30.5  |
| Growth per Year                            |       | +9.6% | -1.7% | +5.8% | +9.4% | +2.2% | +2.5% | +3.9% | +4.2% | +4.4% | +4.5% | +4.3% | +4.0% | +3.9% |
| WW Medtech Sales                           | 272.1 | 300.7 | 303.7 | 321.1 | 347.4 | 356.5 | 363.8 | 379.9 | 400.8 | 422.6 | 444.9 | 467.5 | 489.9 | 513.5 |
| R&D as % of Medtech Sales                  | +6.4% | +6.4% | +6.2% | +6.2% | +6.3% | +6.3% | +6.3% | +6.3% | +6.2% | +6.1% | +6.1% | +6.0% | +6.0% | +5.9% |
| R&D as % of Medtech Sales (Top 20 in 2020) |       |       |       |       |       |       |       |       |       |       |       |       |       | 8.1%  |

Source: EvaluateMedTech® (18 SEP 2014)

|                                       |         |
|---------------------------------------|---------|
| CAGR 2013-20 on Medtech R&D Spend     | +4.2%   |
| Cumulative 5 year R&D Spend (2009-13) | \$106bn |
| CAGR 2007-13 on Medtech R&D Spend     | +4.6%   |

**Note:** Analysis is based on the Top 200 medtech companies. R&D spend in 2013 based on company reported data.

Forecast medtech R&D spend based on a consensus of leading equity analysts' estimates for company level R&D spend, extrapolated to medtech R&D when a company has non-medtech R&D activity.

Medtech R&D is not disclosed by a number of companies and this analysis is limited to those companies with sufficient disclosure. Notable omissions: Baxter and 3M.

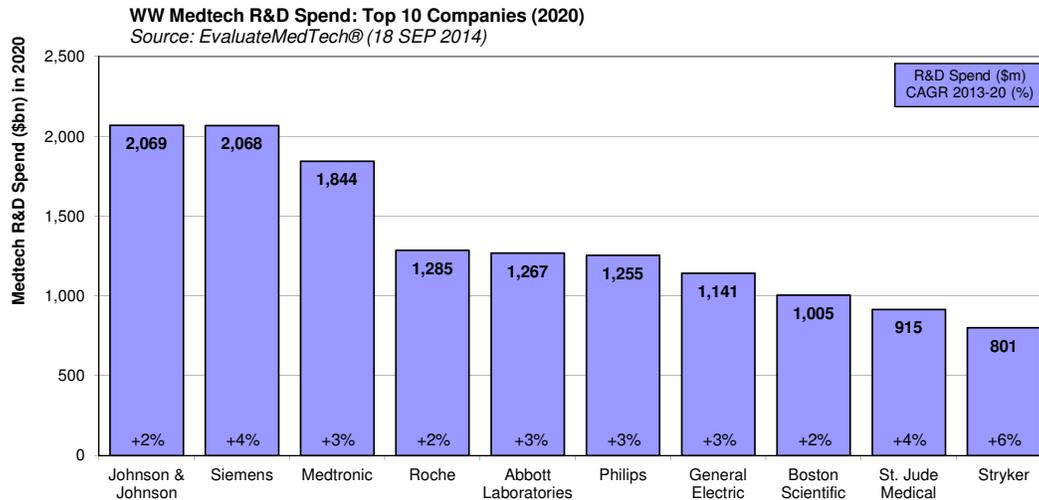


# Medtech R&D Spend in 2020: Top 20 Companies

## Siemens and Johnson & Johnson Joint Top Medtech R&D Spenders in 2020

EvaluateMedTech® consensus forecasts find that Johnson & Johnson and Siemens will be neck and neck in terms of R&D spend in 2020, with expenditure at both companies set to reach \$2.1bn. Both of these companies are likely to be eclipsed, though, when forecasts are made next year for the combined Medtronic and Covidien. This company's R&D spend could add up to \$2.6bn in 2020, though it is likely to be a little less than this as cuts are made. Nonetheless the combined company will almost certainly be the top spender.

Of the top 20, Edwards Lifesciences is forecast to invest the most into R&D as a percentage of medtech sales, with an R&D investment rate of 13.7% in 2020, but this represents a fall of 2.1 percentage points from the 15.8% rate seen in 2013.



## WW Medtech R&D Spend: Top 20 Companies & Total Market (2013/20)

| Company                  | Medtech R&D (\$m) |        |            | R&D As a % of Medtech |       |            | Rank Chg. (+/-) |
|--------------------------|-------------------|--------|------------|-----------------------|-------|------------|-----------------|
|                          | 2013              | 2020   | CAGR 13-20 | 2013                  | 2020  | Chg. (+/-) |                 |
| 1 Johnson & Johnson      | 1,783             | 2,069  | +2.1%      | 6.3%                  | 6.3%  | +0.0pp     | -               |
| 2 Siemens                | 1,614             | 2,068  | +3.6%      | 9.0%                  | 8.6%  | -0.4pp     | -               |
| 3 Medtronic              | 1,477             | 1,844  | +3.2%      | 8.7%                  | 8.4%  | -0.3pp     | -               |
| 4 Roche                  | 1,098             | 1,285  | +2.3%      | 9.7%                  | 8.4%  | -1.3pp     | -               |
| 5 Abbott Laboratories    | 1,007             | 1,267  | +3.3%      | 10.1%                 | 9.2%  | -0.9pp     | +1              |
| 6 Philips                | 1,036             | 1,255  | +2.8%      | 11.0%                 | 10.9% | -0.2pp     | -1              |
| 7 General Electric       | 956               | 1,141  | +2.6%      | 9.8%                  | 9.5%  | -0.3pp     | -               |
| 8 Boston Scientific      | 859               | 1,005  | +2.3%      | 12.0%                 | 10.9% | -1.2pp     | -               |
| 9 St. Jude Medical       | 691               | 915    | +4.1%      | 12.6%                 | 12.1% | -0.4pp     | -               |
| 10 Stryker               | 536               | 801    | +5.9%      | 5.9%                  | 6.1%  | +0.2pp     | +1              |
| 11 Danaher               | 551               | 761    | +4.7%      | 7.9%                  | 7.9%  | +0.0pp     | -1              |
| 12 Covidien              | 508               | 714    | +5.0%      | 5.0%                  | 5.2%  | +0.2pp     | -               |
| 13 Becton Dickinson      | 494               | 661    | +4.3%      | 7.1%                  | 7.0%  | -0.1pp     | -               |
| 14 Terumo                | 303               | 456    | +6.0%      | 7.4%                  | 7.7%  | +0.3pp     | +1              |
| 15 Edwards Lifesciences  | 323               | 423    | +3.9%      | 15.8%                 | 13.7% | -2.1pp     | -1              |
| 16 B. Braun Melsungen    | 290               | 389    | +4.3%      | 4.2%                  | 4.2%  | +0.0pp     | -               |
| 17 Essilor International | 218               | 381    | +8.3%      | 3.6%                  | 3.7%  | +0.0pp     | +5              |
| 18 Smith & Nephew        | 231               | 364    | +6.7%      | 5.3%                  | 5.7%  | +0.4pp     | +3              |
| 19 Olympus               | 274               | 341    | +3.2%      | 5.6%                  | 4.3%  | -1.3pp     | -1              |
| 20 bioMérieux            | 247               | 331    | +4.3%      | 14.8%                 | 13.1% | -1.6pp     | -               |
| <b>Total Top 20</b>      | 14,496            | 18,470 | +3.5%      | 8.1%                  | 7.7%  | -0.4pp     |                 |
| <b>Other</b>             | 8,431             | 12,024 | +5.2%      |                       |       |            |                 |
| <b>Total</b>             | 22,927            | 30,494 | +4.2%      | 6.3%                  | 5.9%  |            |                 |

Source: EvaluateMedTech® (18 SEP 2014)

**Note:** Analysis is based on the top 200 medtech companies. R&D spend in 2013 based on company reported data.

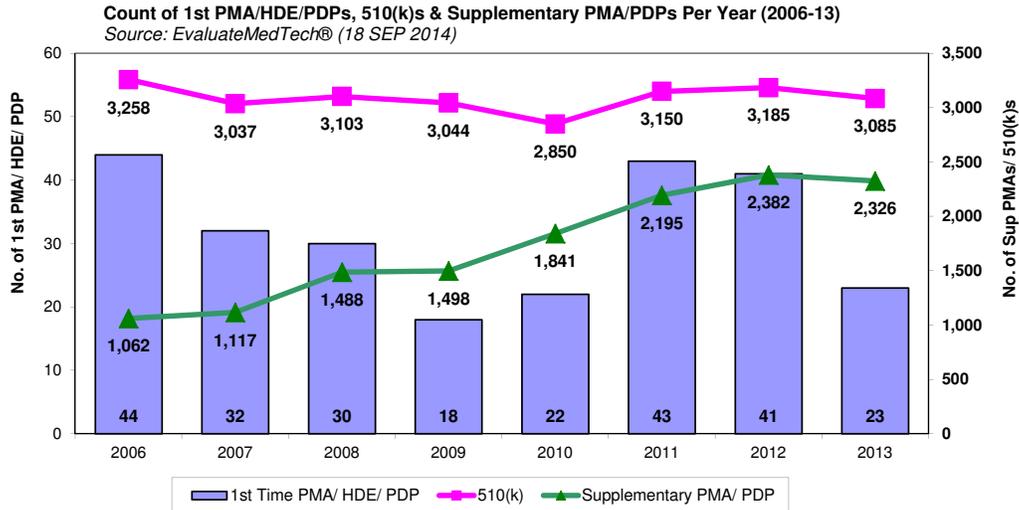
Forecast medtech R&D spend based on a consensus of leading equity analysts' estimates for company level R&D spend, extrapolated to medtech R&D when a company has non-medtech R&D activity.

Medtech R&D is not disclosed by a number of companies and this analysis is limited to those companies with sufficient disclosure. Notable omissions: Baxter and 3M.

## Number of First-Time PMAs Almost Halves in 2013 to 23; 510(k) Clearances Down 3% to 3,085

EvaluateMedTech® found that the FDA granted 23 new PMAs/HDEs/PDPs (first-time approvals) in 2013, a massive decrease of 44% from the 2012 figure of 41. 510(k) clearances also declined in 2013, but much less steeply, falling 3% to 3,085.

In 2013 Medtronic had the most overall approvals/clearances, with 784.



## Count of 1st PMA/HDE/PDPs, 510(k)s & Supplementary PMA/PDPs (2006-13)

| Year                  | 2006         | 2007         | 2008         | 2009         | 2010         | 2011         | 2012         | 2013         |
|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 1st Time PMA/HDE/PDP  | 44           | 32           | 30           | 18           | 22           | 43           | 41           | 23           |
| % Chg.                |              | -27%         | -6%          | -40%         | +22%         | +95%         | -5%          | -44%         |
| Supplementary PMA/PDP | 1,062        | 1,117        | 1,488        | 1,498        | 1,841        | 2,195        | 2,382        | 2,326        |
| % Chg.                |              | +5%          | +33%         | +1%          | +23%         | +19%         | +9%          | -2%          |
| 510(k)                | 3,258        | 3,037        | 3,103        | 3,044        | 2,850        | 3,150        | 3,185        | 3,085        |
| % Chg.                |              | -7%          | +2%          | -2%          | -6%          | +11%         | +1%          | -3%          |
| <b>Total</b>          | <b>4,364</b> | <b>4,186</b> | <b>4,621</b> | <b>4,560</b> | <b>4,713</b> | <b>5,388</b> | <b>5,608</b> | <b>5,434</b> |
| % Chg.                |              | -4%          | +10%         | -1%          | +3%          | +14%         | +4%          | -3%          |

## Count of PMA/HDE/PDPs, 510(k)s & Medtech R&D Spend (2013)

| Company                | PMA/ HDEs - First Approval | PMA/ PDPs - Suppl. | 510(k) Clearance | Total Approvals | R&D Spend (\$m) |
|------------------------|----------------------------|--------------------|------------------|-----------------|-----------------|
| 1 Medtronic            | 2                          | 722                | 60               | 784             | 1,477           |
| 2 Boston Scientific    | 0                          | 356                | 26               | 382             | 859             |
| 3 Johnson & Johnson    | 2                          | 101                | 57               | 160             | 1,783           |
| 4 Abbott Laboratories  | 2                          | 133                | 11               | 146             | 1,007           |
| 5 Edwards Lifesciences | 0                          | 98                 | 7                | 105             | 323             |
| 6 Roche                | 1                          | 85                 | 19               | 105             | 1,098           |
| 7 St. Jude Medical     | 0                          | 85                 | 14               | 99              | 691             |
| 8 Siemens              | 0                          | 6                  | 54               | 60              | 1,614           |
| 9 Stryker              | 0                          | 2                  | 57               | 59              | 536             |
| 10 BIOTRONIK           | 0                          | 54                 | 3                | 57              | 123             |
| <b>Total</b>           | <b>23</b>                  | <b>2,326</b>       | <b>3,085</b>     | <b>5,434</b>    |                 |

Source: EvaluateMedTech® (18 SEP 2014)

**Note:** Based on Devices@FDA data.

PMA (Premarket Approval): a class III device which is a 'life-sustaining or life-supporting implantable device'; usually require trials.

510(k): "substantially equivalent" to a legally marketed Class I, II, III device (where PMA not required).

HDE (Humanitarian Device Exemption): a device for treating or diagnosing a disease/condition that affects <4,000 individuals in the US per year.

## FDA Approves 20 New PMAs in 2014 to end of August, Representing a 43% Uptick Compared with the Same Point Last Year

EvaluateMedTech® found that the FDA has so far approved 20 new PMAs and two HDEs in 2014 to 31st August. This represents a 43% increase compared with the 14 new PMAs that had been granted at this point last year.

As in 2013, one of the most predominant areas was that of molecular diagnostics. This fast-growing area saw four approvals, representing 20% of the PMAs to date this year. Also well represented were heart valves with three PMAs to date in 2014.

### 2014 FDA First-Time PMAs (to 31st August 2014)

| EvaluateMedTech® Device Classification |  |  | Decision  |                           |   |  |
|--|--|--|-----------|---------------------------|---|--|
| Level 1                                | Level 2  | Level 3  | Date      | Company                   | Product Code Name   | Device Name (Approval Code)  |
| Anesthesia & Respiratory               | Anesthesia & Respiratory Therapeutic Devices   | Other Anesthesia & Respiratory Therapeutic Devices | 30 Apr 14 | Inspire Medical Systems   | Stimulator, Hypoglossal Nerve, Implanted, Apnea   | INSPIRE II UPPER AIRWAY STIMULATOR (P130008)                                       |
| Cardiology                             | Cardiac Prosthetic Devices                     | Tissue Heart Valves                                | 24 Jun 14 | Sorin                     | Heart-Valve, Non-Allograft Tissue   | FREEDOM SOLO STENTLESS HEART VALVE (P130011)                                       |
| Cardiology                             | Cardiac Prosthetic Devices                     | Transcatheter Heart Valves                         | 16 Jun 14 | Edwards Lifesciences      | Aortic Valve, Prosthesis, Percutaneously Delivered  | EDWARDS SAPIEN XT TRANSCATHETER HEART VALVE AND ACCESSORIES (P130009)              |
| Cardiology                             | Cardiac Prosthetic Devices                     | Transcatheter Heart Valves                         | 17 Jan 14 | Medtronic                 | Aortic Valve, Prosthesis, Percutaneously Delivered  | MEDTRONIC COREVALVE SYSTEM (P130021)   |
| Cardiology                             | Cardiac Prosthetic Devices                     | Graft Prosthesis                                   | 17 Jun 14 | C. R. Bard                | System, Endovascular Graft, Arteriovenous (Av) Dialysis Access Circuit Stenosis Treatment | FLUENCY PLUS ENDOVASCULAR STENT GRAFT (P130029)                                    |
| Cardiology                             | Cardiovascular Monitoring & Diagnostic Devices | ECG Monitoring                                     | 28 May 14 | St. Jude Medical          | System, Hemodynamic, Implantable  | CARDIOMEMS HF PRESSURE MEASUREMENT SYSTEM (P100045)                                |
| Cardiology                             | Interventional Cardiology                      | Non-Drug-Eluting Coronary Stents                   | 27 Jun 14 | Boston Scientific         | Stent, Coronary   | REBEL PLATINUM CHROMIUM CORONARY STENT SYSTEM MONORAIL AND OVER THE WIRE (P130030) |
| Cardiology                             | Interventional Cardiology                      | Peripheral Vascular Devices                        | 28 Mar 14 | Abbott Laboratories       | Stent, Superficial Femoral Artery   | SUPERA PERIPHERAL STENT SYSTEM (P120020)   |
| Diagnostic Imaging                     | Computed Tomography (CT)                       | Other Computed Tomography (CT)                     | 26 Aug 14 | General Electric          | Digital Breast Tomosynthesis  | SENOCLAIRE (P130020)   |
| Ear, Nose & Throat (ENT)               | Ear Devices                                    | Hearing Implants                                   | 20 Mar 14 | Cochlear                  | Hybrid Cochlear Implant   | NUCLEUS HYBRID L24 IMPLANT SYSTEM (P130016)  |
| In Vitro Diagnostics (IVD)             | Immunoassays                                   | Viral Immunoassays                                 | 16 May 14 | Siemens                   | Test, Hepatitis B (B Core, Be Antigen, Be Antibody, B Core Igm)                           | ADVIA CENTAUR HBSAGII (P110041)  |
| In Vitro Diagnostics (IVD)             | Immunoassays                                   | Viral Immunoassays                                 | 14 Mar 14 | Roche                     | Test, Hepatitis B (B Core, Be Antigen, Be Antibody, B Core Igm)                           | ELECSYS® HBEAG IMMUNOASSAY AND ELECSYS® PRECICONTROL HBEAG (P130015)               |
| In Vitro Diagnostics (IVD)             | Molecular Diagnostics                          | Hematology Molecular Diagnostics                   | 21 May 14 | Immucor                   | Molecular Erythrocyte Typing Test   | IMMUCOR PRECISETYPE™ (BP130026)  |
| In Vitro Diagnostics (IVD)             | Molecular Diagnostics                          | Infectious Disease Molecular Diagnostics           | 02 Jun 14 | QIAGEN                    | Cytomegalovirus (Cmv) Dna Quantitative Assay  | ARTUS CMV RQG MDX KIT (P130027)  |
| In Vitro Diagnostics (IVD)             | Molecular Diagnostics                          | Oncology Molecular Diagnostics                     | 11 Aug 14 | EXACT Sciences            | System, Colorectal Neoplasia, Dna Methylation And Hemoglobin Detection                    | COLOGUARD (P130017)  |
| In Vitro Diagnostics (IVD)             | Molecular Diagnostics                          | Oncology Molecular Diagnostics                     | 23 May 14 | QIAGEN                    | Somatic Gene Mutation Detection System  | THERASCREEN KRAS RQG PCR KIT (P110027)   |
| Ophthalmics                            | Ophthalmic Surgical Devices                    | Other Ophthalmic Surgical Devices                  | 08 Jan 14 | Ocular Therapeutix        | Ophthalmic Sealant  | RESURE SEALANT (P130004)   |
| Orthopedics                            | Orthobiologics                                 | Viscosupplementation                               | 09 May 14 | IBSA Institut Biochimique | Acid, Hyaluronic, Intraarticular  | SINOVIAL (SODIUM HYALURONATE 0.8%) (P110005)                                       |
| Orthopedics                            | Orthobiologics                                 | Viscosupplementation                               | 25 Feb 14 | Anika Therapeutics        | Acid, Hyaluronic, Intraarticular  | MONOVISC (P090031)   |
| Orthopedics                            | Spinal Devices                                 | Artificial Discs                                   | 24 Jul 14 | Medtronic                 | Prosthesis, Intervertebral Disc   | PRESTIGE LP CERVICAL DISC (P090029)  |

### 2014 FDA Humanitarian Device Exemptions (HDEs) (to 31st August 2014)

| EvaluateMedTech® Device Classification |                                 |                                       | Decision  |                 |  |  |
|--|---------------------------------|---------------------------------------|-----------|-----------------|--|--|
| Level 1                                | Level 2                         | Level 3                               | Date      | Company         | Product Code Name  | Device Name (Approval Code)  |
| Anesthesia & Respiratory               | Respiratory Therapeutic Devices | Other Respiratory Therapeutic Devices | 12 Aug 14 | Xvivo Perfusion | Normothermic Preservation System For Transplantation Of Initially Unacceptable Donor Lungs | XVIVO PERFUSION SYSTEM (XPS™) WITH STEEN SOLUTION™ PERFUSATE (H120003) |
| Neurology                              | Neurology Therapeutic           | Neurovascular Devices                 | 25 Jul 14 | Terumo          | Device, Neurovascular Embolization   | LOW-PROFILE VISUALIZED INTRALUMINAL SUPPORT DEVICE (LVIS AND LVIS JR.) |

Source: EvaluateMedTech® (18 SEP 2014)

**Note:** Based on Devices@FDA data to 31st August 2014.

PMA (Pre-market Approval): a class III device which is a 'life-sustaining or life-supporting implantable device'; usually require trials.

HDE (Humanitarian Device Exemption): a device for treating or diagnosing a disease/condition that affects <4,000 individuals in the US per year.



# In Vitro Diagnostics (IVD) Market to 2020

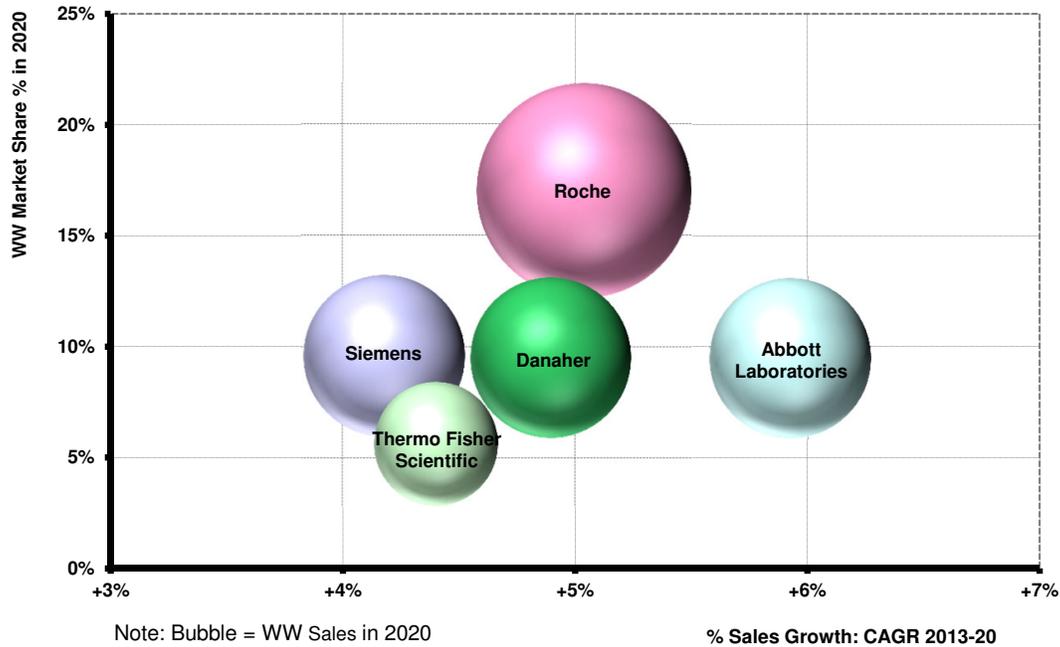
## Roche Maintains Leading Position within In Vitro Diagnostics Market

EvaluateMedTech® consensus forecast finds that Roche is expected to remain the dominant force in the in vitro diagnostic space to 2020. The company is forecast to command a massive 17.0% market share in 2020, with sales expected to reach \$12.2bn.

The Japanese company Sysmex is predicted to be the fastest growing company in this field with sales expected to grow by 11% per year (CAGR) between 2013 and 2020. This results in the company jumping three places in the rankings to sixth in 2020.

### WW In Vitro Diagnostics Sales, Market Share & Sales Growth (2013-20)

Source: EvaluateMedTech® (18 SEP 2014)



### WW In Vitro Diagnostics Sales: Top 10 Companies & Total Market (2013/20)

| Rank                  | Company                  | WW Sales (\$m) |               | CAGR<br>2013-20 | WW Market Share |               | Rank Chg.<br>2013-20 |
|-----------------------|--------------------------|----------------|---------------|-----------------|-----------------|---------------|----------------------|
|                       |                          | 2013           | 2020          |                 | 2013            | 2020          |                      |
| 1                     | Roche                    | 8,654          | 12,205        | +5%             | 18.3%           | 17.0%         | -                    |
| 2                     | Siemens                  | 5,173          | 6,889         | +4%             | 10.9%           | 9.6%          | -                    |
| 3                     | Danaher                  | 4,882          | 6,821         | +5%             | 10.3%           | 9.5%          | -                    |
| 4                     | Abbott Laboratories      | 4,545          | 6,799         | +6%             | 9.6%            | 9.5%          | -                    |
| 5                     | Thermo Fisher Scientific | 2,993          | 4,046         | +4%             | 6.3%            | 5.6%          | -                    |
| 6                     | Sysmex                   | 1,796          | 3,782         | +11%            | 3.8%            | 5.3%          | +3                   |
| 7                     | Becton Dickinson         | 2,646          | 3,399         | +4%             | 5.6%            | 4.7%          | -1                   |
| 8                     | Alere                    | 2,243          | 2,832         | +3%             | 4.7%            | 4.0%          | -1                   |
| 9                     | bioMérieux               | 1,662          | 2,519         | +6%             | 3.5%            | 3.5%          | +1                   |
| 10                    | Werfen Group             | 1,472          | 2,278         | +6%             | 3.1%            | 3.2%          | +1                   |
| <b>Top 10</b>         |                          | <b>36,066</b>  | <b>51,570</b> | <b>+5%</b>      | <b>76.1%</b>    | <b>72.0%</b>  |                      |
| <b>Other</b>          |                          | <b>11,329</b>  | <b>20,071</b> | <b>+9%</b>      | <b>23.9%</b>    | <b>28.0%</b>  |                      |
| <b>Total Industry</b> |                          | <b>47,394</b>  | <b>71,640</b> | <b>+6.1%</b>    | <b>100.0%</b>   | <b>100.0%</b> |                      |

Source: EvaluateMedTech® (18 SEP 2014); Consensus sales from equity analysts' reports

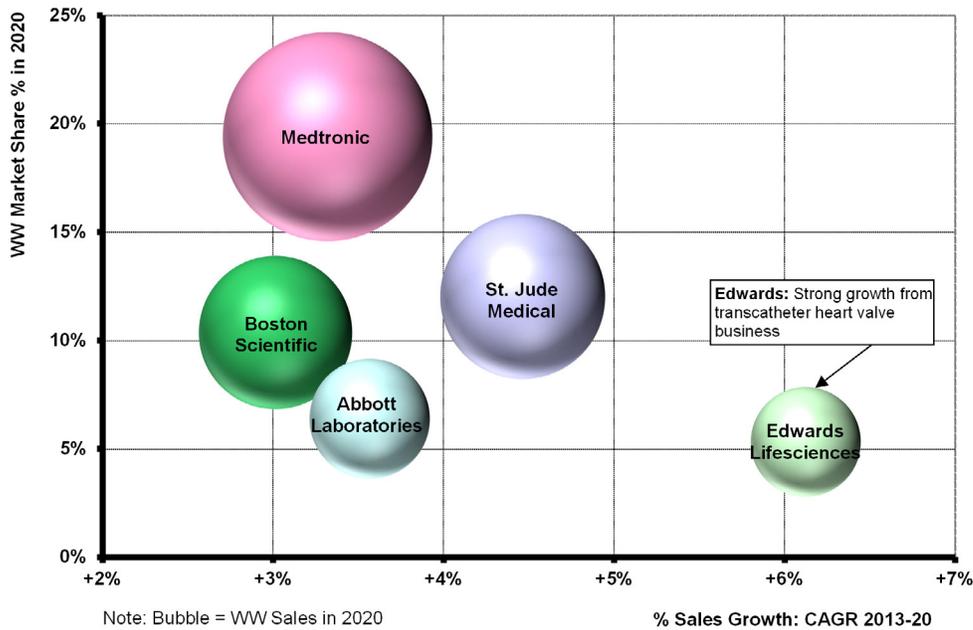
**Note:** Excludes Glucose Test Systems which are included in Diabetic Care classification.

## Medtronic Set to Solidify Number One Position in Cardiology through Acquisition of Covidien

EvaluateMedTech® consensus forecast finds that Medtronic will remain the world's number one cardiology company with global sales of \$11.1bn in 2020.

This dominance is set to be further entrenched following completion of the proposed \$42.9bn acquisition of Covidien. With sales of \$1.5bn forecast in 2020, Covidien sits just outside the top 10 cardiology companies at number 11. Together the companies are forecast to achieve sales of \$12.6bn in 2020, representing 22.0% market share.

**WW Cardiology Sales, Market Share & Sales Growth (2013-20)**  
Source: EvaluateMedTech® (18 SEP 2014)



## WW Cardiology Sales: Top 10 Companies & Total Market (2013/20)

| Rank                  | Company              | WW Sales (\$m) |               | CAGR 2013-20 | WW Market Share |               | Rank Chg. 2013-20 |
|-----------------------|----------------------|----------------|---------------|--------------|-----------------|---------------|-------------------|
|                       |                      | 2013           | 2020          |              | 2013            | 2020          |                   |
| 1                     | Medtronic            | 8,847          | 11,120        | +3%          | 22.2%           | 19.4%         | -                 |
| 2                     | St. Jude Medical     | 5,075          | 6,889         | +4%          | 12.7%           | 12.0%         | -                 |
| 3                     | Boston Scientific    | 4,827          | 5,942         | +3%          | 12.1%           | 10.4%         | -                 |
| 4                     | Abbott Laboratories  | 2,865          | 3,661         | +4%          | 7.2%            | 6.4%          | -                 |
| 5                     | Edwards Lifesciences | 2,012          | 3,050         | +6%          | 5.0%            | 5.3%          | +2                |
| 6                     | Johnson & Johnson    | 2,077          | 2,959         | +5%          | 5.2%            | 5.2%          | -1                |
| 7                     | Terumo               | 1,786          | 2,827         | +7%          | 4.5%            | 4.9%          | +1                |
| 8                     | Getinge              | 2,046          | 2,573         | +3%          | 5.1%            | 4.5%          | -2                |
| 9                     | W. L. Gore           | 1,500          | 2,152         | +5%          | 3.8%            | 3.8%          | -                 |
| 10                    | Asahi Kasei          | 819            | 1,864         | +12%         | 2.1%            | 3.3%          | +2                |
| <b>Top 10</b>         |                      | <b>31,854</b>  | <b>43,036</b> | <b>+4%</b>   | <b>79.8%</b>    | <b>75.1%</b>  |                   |
| <b>Other</b>          |                      | <b>8,067</b>   | <b>14,277</b> | <b>+8%</b>   | <b>20.2%</b>    | <b>24.9%</b>  |                   |
| <b>Total Industry</b> |                      | <b>39,921</b>  | <b>57,313</b> | <b>+5.3%</b> | <b>100.0%</b>   | <b>100.0%</b> |                   |

Source: EvaluateMedTech® (18 SEP 2014); Consensus sales from equity analysts' reports

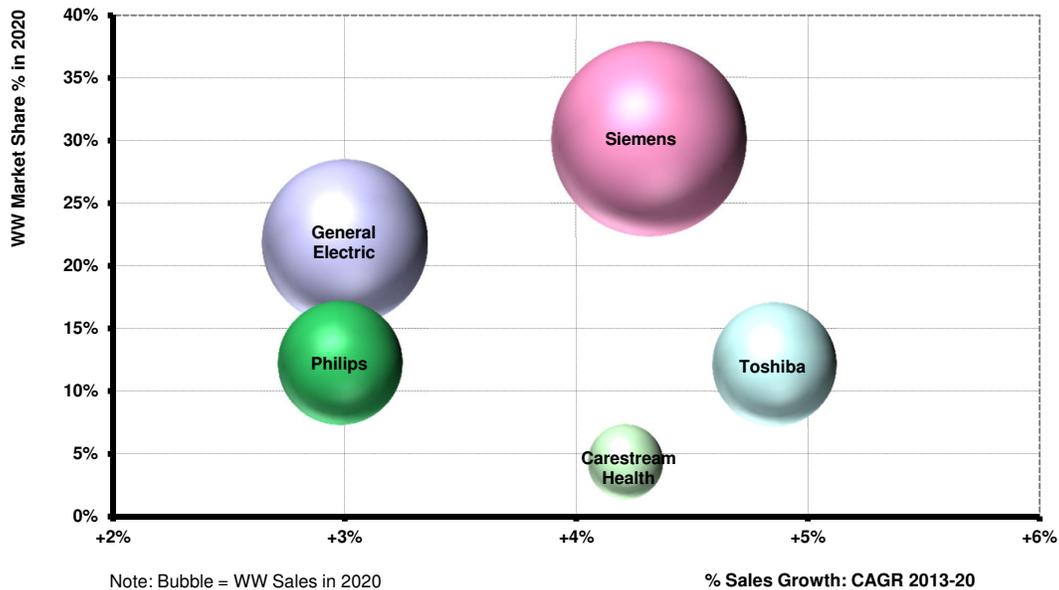
**Note:** General Electric & Philips do not disclose cardiology sales. Medtronic does not include revenues from proposed acquisition of Covidien.

## Siemens Extends Leading Position in Diagnostic Imaging in 2020

EvaluateMedTech® consensus forecast finds that Siemens is forecast to extend its position as the world's leading diagnostic imaging company in 2020. The company is expected to generate \$14.2bn of sales in 2020 representing a market share of 30.1%, an increase from 29.7% in 2013.

Overall, the diagnostic imaging market is set to grow at 4.1% per year (CAGR) to \$47.0bn in 2020.

**WW Diagnostic Imaging Sales, Market Share & Sales Growth (2013-20)**  
Source: EvaluateMedTech® (18 SEP 2014)



## WW Diagnostic Imaging Sales: Top 10 Companies & Total Market (2013/20)

| Rank                  | Company                | WW Sales (\$m) |               | CAGR 2013-20 | WW Market Share |               | Rank Chg. 2013-20 |
|-----------------------|------------------------|----------------|---------------|--------------|-----------------|---------------|-------------------|
|                       |                        | 2013           | 2020          |              | 2013            | 2020          |                   |
| 1                     | Siemens                | 10,539         | 14,164        | +4%          | 29.7%           | 30.1%         | -                 |
| 2                     | General Electric       | 8,372          | 10,294        | +3%          | 23.6%           | 21.9%         | -                 |
| 3                     | Philips                | 4,706          | 5,779         | +3%          | 13.3%           | 12.3%         | -                 |
| 4                     | Toshiba                | 4,102          | 5,717         | +5%          | 11.6%           | 12.2%         | -                 |
| 5                     | Carestream Health      | 1,539          | 2,054         | +4%          | 4.3%            | 4.4%          | -                 |
| 6                     | Hitachi Medical        | 1,179          | 1,359         | +2%          | 3.3%            | 2.9%          | -                 |
| 7                     | Konica Minolta         | 823            | 1,043         | +3%          | 2.3%            | 2.2%          | +1                |
| 8                     | Agfa-Gevaert           | 909            | 1,033         | +2%          | 2.6%            | 2.2%          | -1                |
| 9                     | Varian Medical Systems | 546            | 984           | +9%          | 1.5%            | 2.1%          | +1                |
| 10                    | Hologic                | 421            | 783           | +9%          | 1.2%            | 1.7%          | +1                |
| <b>Top 10</b>         |                        | <b>33,137</b>  | <b>43,210</b> | <b>+4%</b>   | <b>93.4%</b>    | <b>92.0%</b>  |                   |
| <b>Other</b>          |                        | <b>2,335</b>   | <b>3,770</b>  | <b>+7%</b>   | <b>6.6%</b>     | <b>8.0%</b>   |                   |
| <b>Total Industry</b> |                        | <b>35,472</b>  | <b>46,980</b> | <b>+4.1%</b> | <b>100.0%</b>   | <b>100.0%</b> |                   |

Source: EvaluateMedTech® (18 SEP 2014); Consensus sales from equity analysts' reports

**Note:** Segment sales include servicing of equipment. FUJIFILM's Diagnostic Imaging sales are not available.

### Johnson & Johnson Continues to Lead the Orthopedics Market

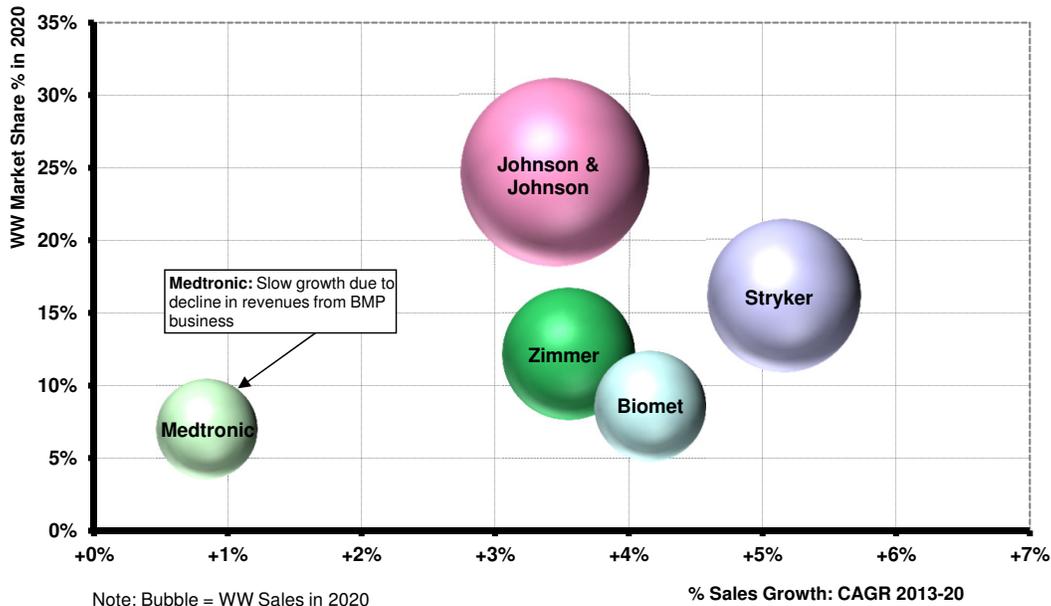
EvaluateMedTech® consensus forecast finds that Johnson & Johnson continues to lead the pack in orthopedics, with sales expected to reach \$11.3bn - representing a 24.7% market share - in 2020.

However, following the completion of its pending \$13.4bn acquisition of Biomet, Zimmer will close in on the leader and is forecast to leapfrog Stryker to take second place in the rankings with combined revenue forecast to reach \$9.5bn in 2020, giving it a 20.8% market share.

Of the top 20 companies, Medtronic is forecast to have the lowest growth rate, with sales expected to grow by just 1% per year (CAGR) between 2013 and 2020 owing to its struggling BMP business.

**WW Orthopedics Sales, Market Share & Sales Growth (2013-20)**

Source: EvaluateMedTech® (18 SEP 2014)



Note: Bubble = WW Sales in 2020

**WW Orthopedics Sales: Top 10 Companies & Total Market (2013/20)**

| Rank                  | Company              | WW Sales (\$m) |               | CAGR<br>2013-20 | WW Market Share |               | Rank Chg.<br>2013-20 |
|-----------------------|----------------------|----------------|---------------|-----------------|-----------------|---------------|----------------------|
|                       |                      | 2013           | 2020          |                 | 2013            | 2020          |                      |
| 1                     | Johnson & Johnson    | 8,948          | 11,345        | +3%             | 26.5%           | 24.7%         | -                    |
| 2                     | Stryker              | 5,228          | 7,436         | +5%             | 15.5%           | 16.2%         | -                    |
| 3                     | Zimmer               | 4,384          | 5,599         | +4%             | 13.0%           | 12.2%         | -                    |
| 4                     | Biomet               | 2,964          | 3,941         | +4%             | 8.8%            | 8.6%          | +1                   |
| 5                     | Medtronic            | 3,041          | 3,224         | +1%             | 9.0%            | 7.0%          | -1                   |
| 6                     | Arthrex              | 1,550          | 2,912         | +9%             | 4.6%            | 6.3%          | +1                   |
| 7                     | Smith & Nephew       | 2,004          | 2,582         | +4%             | 5.9%            | 5.6%          | -1                   |
| 8                     | NuVasive             | 646            | 1,019         | +7%             | 1.9%            | 2.2%          | -                    |
| 9                     | Globus Medical       | 434            | 778           | +9%             | 1.3%            | 1.7%          | +2                   |
| 10                    | Wright Medical Group | 474            | 600           | +3%             | 1.4%            | 1.3%          | -                    |
| <b>Top 10</b>         |                      | <b>29,674</b>  | <b>39,434</b> | <b>+4%</b>      | <b>87.7%</b>    | <b>85.9%</b>  |                      |
| <b>Other</b>          |                      | <b>4,146</b>   | <b>6,487</b>  | <b>+7%</b>      | <b>12.3%</b>    | <b>14.1%</b>  |                      |
| <b>Total Industry</b> |                      | <b>33,820</b>  | <b>45,920</b> | <b>+4.5%</b>    | <b>100.0%</b>   | <b>100.0%</b> |                      |

Source: EvaluateMedTech® (18 SEP 2014); Consensus sales from equity analysts' reports

**Note:** Zimmer does not include revenues from proposed acquisition of Biomet.

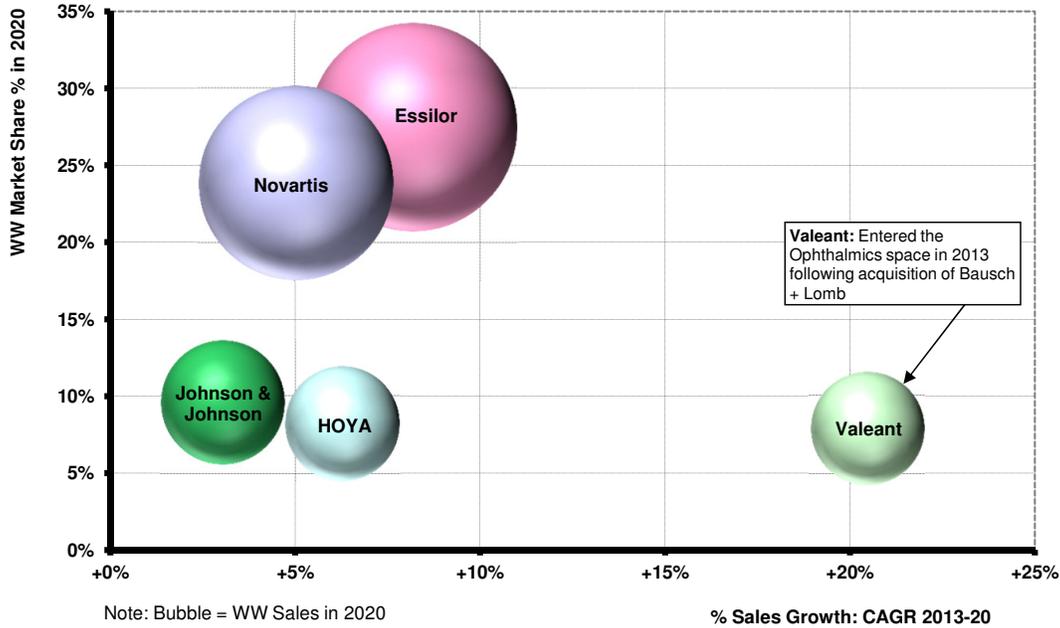
## Essilor to Replace Novartis as Top Ophthalmics Company by 2020

EvaluateMedTech® consensus forecast finds that Essilor, the French maker of optical lenses, is expected to become the leading ophthalmics company in 2020. Sales are forecast to reach \$10.4bn on the back of strong annual growth of 8% (CAGR) between 2013 and 2020.

Valeant Pharmaceuticals moves into the top 5 following its acquisition of Bausch + Lomb in August 2013, with sales forecast to reach almost \$3bn in 2020.

### WW Ophthalmics Sales, Market Share & Sales Growth (2013-20)

Source: EvaluateMedTech® (18 SEP 2014)



### WW Ophthalmics Sales: Top 10 Companies & Total Market (2013/20)

| Rank           | Company                 | WW Sales (\$m) |        | CAGR<br>2013-20 | WW Market Share |        | Rank Chg.<br>2013-20 |
|----------------|-------------------------|----------------|--------|-----------------|-----------------|--------|----------------------|
|                |                         | 2013           | 2020   |                 | 2013            | 2020   |                      |
| 1              | Essilor International   | 5,985          | 10,368 | +8%             | 24.4%           | 27.5%  | +1                   |
| 2              | Novartis                | 6,388          | 9,015  | +5%             | 26.1%           | 23.9%  | -1                   |
| 3              | Johnson & Johnson       | 2,937          | 3,626  | +3%             | 12.0%           | 9.6%   | -                    |
| 4              | HOYA                    | 2,032          | 3,108  | +6%             | 8.3%            | 8.3%   | -                    |
| 5              | Valeant Pharmaceuticals | 812            | 2,987  | +20%            | 3.3%            | 7.9%   | +4                   |
| 6              | The Cooper Companies    | 1,268          | 2,738  | +12%            | 5.2%            | 7.3%   | -                    |
| 7              | Carl Zeiss              | 1,776          | 2,290  | +4%             | 7.2%            | 6.1%   | -2                   |
| 8              | Abbott Laboratories     | 1,142          | 1,810  | +7%             | 4.7%            | 4.8%   | -1                   |
| 9              | TOPCON                  | 387            | 646    | +8%             | 1.6%            | 1.7%   | +1                   |
| 10             | NIDEK                   | 334            | 481    | +5%             | 1.4%            | 1.3%   | +1                   |
| Top 10         |                         | 23,060         | 37,070 | +7%             | 94.1%           | 98.4%  |                      |
| Other          |                         | 1,437          | 592    |                 | 5.9%            | 1.6%   |                      |
| Total Industry |                         | 24,497         | 37,662 | +6.3%           | 100.0%          | 100.0% |                      |

Source: EvaluateMedTech® (18 SEP 2014); Consensus sales from equity analysts' reports

**Note:** Valeant's 2013 ophthalmic revenues only include the Bausch + Lomb business from the date of the closing of the acquisition (6 AUG 2013). Proforma CAGR for the combined company is forecast to be 7% between 2013 and 2020.

## M&A Deal Value Jumps by a Massive 363% in H1 2014, though Deal Count Falls by 10%

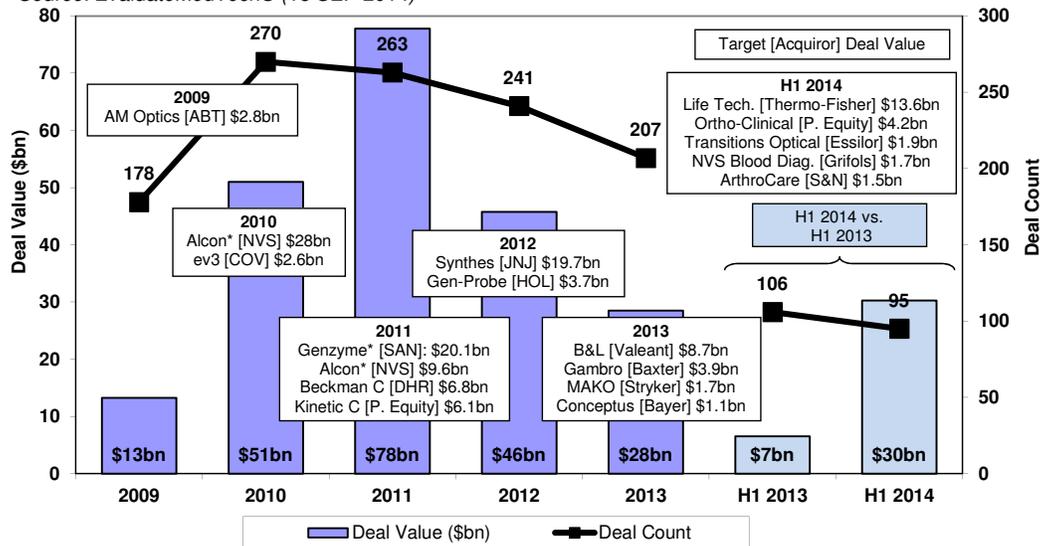
EvaluateMedTech® found that total medtech M&A deal values came to \$30bn in H1 2014, an increase of 363% on the \$7bn in H1 2013. Despite the growth in deal value, the number of overall deals actually fell by 10% to 95 in H1 2014.

This massive hike in H1 2014 vs H1 2013 was largely due to the major acquisitions of Life Technologies by Thermo-Fisher for \$13.6bn, and J&J's Ortho-Clinical Diagnostics unit by The Carlyle Group for \$4.2bn.

The ongoing Medtronic/Covidien and Zimmer/Biomet megamergers, though, will dwarf these earlier acquisitions. Worth \$42.9bn and \$13.4bn, respectively, these deals will change the face of the medtech industry.

### Count of Medtech M&A Deals vs. Total Medtech M&A Value (2009 - H1 2014)

Source: EvaluateMedTech® (18 SEP 2014)



### Count of Medtech Closed M&A Deals vs. Total Medtech M&A Value (2009 - H1 2014)

| Period            | 2009 | 2010 | 2011 | 2012 | 2013 | H1 2013 | H1 2014 |
|-------------------|------|------|------|------|------|---------|---------|
| Deal Count        | 178  | 270  | 263  | 241  | 207  | 106     | 95      |
| % Chg.            |      | 52%  | -3%  | -8%  | -14% |         | -10%    |
| Deal Value (\$bn) | 13   | 51   | 78   | 46   | 28   | 7       | 30      |
| % Chg.            |      | 285% | 53%  | -41% | -38% |         | 363%    |

### Top 10 Medtech M&A Deals Closed: Ranked on Deal Value (H1 2014)

| Target                                   | Country (Status) | Acquiror                 | Completion Date | Deal Value (\$m) |
|--|------------------|--------------------------|-----------------|------------------|
| 1 Life Technologies                      | USA (Listed)     | Thermo Fisher Scientific | 03 Feb 14       | 13,600           |
| 2 Ortho-Clinical Diagnostics             | USA (Unit)       | The Carlyle Group        | 30 Jun 14       | 4,150            |
| 3 Transitions Optical                    | USA (Private)    | Essilor International    | 01 Apr 14       | 1,855            |
| 4 Novartis Blood Transfusion Diagnostics | USA (Unit)       | Grifols                  | 09 Jan 14       | 1,675            |
| 5 ArthroCare                             | USA (Listed)     | Smith & Nephew           | 29 May 14       | 1,500            |
| 6 Given Imaging                          | Israel (Listed)  | Covidien                 | 27 Feb 14       | 860              |
| 7 BarrierSafe Solutions International    | USA (Private)    | Ansell                   | 03 Jan 14       | 615              |
| 8 BioFire Diagnostics                    | USA (Private)    | bioMérieux               | 16 Jan 14       | 450              |
| 9 IQuum                                  | USA (Private)    | Roche                    | 10 Jun 14       | 450              |
| 10 Coastal Contacts                      | Canada (Listed)  | Essilor International    | 28 Apr 14       | 393              |
| Other                                    |                  |                          |                 | 4,720            |
| <b>Total</b>                             |                  |                          |                 | <b>30,268</b>    |

Source: EvaluateMedTech® (18 SEP 2014)

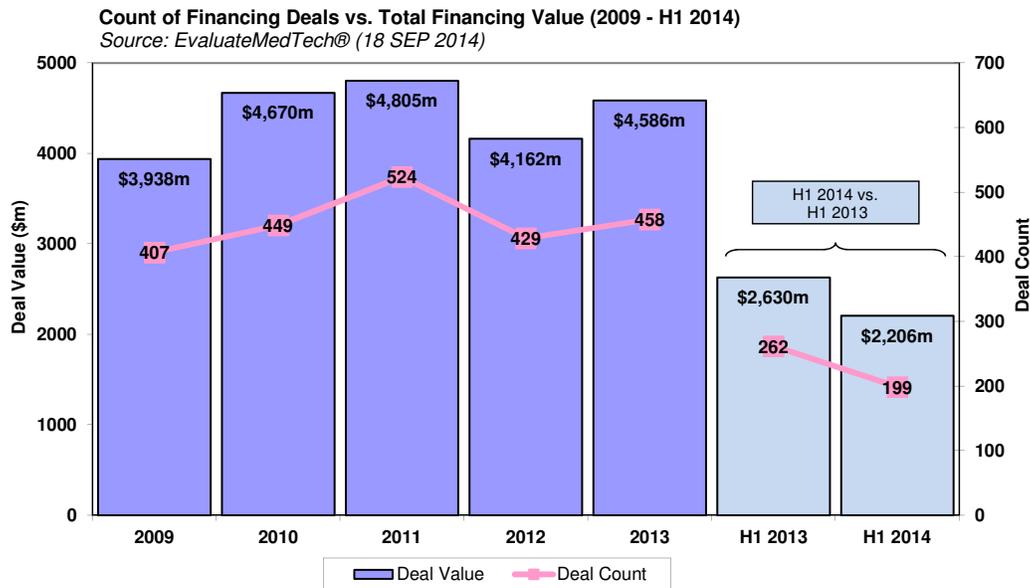
**Note:** Analysis based on closing date of deal.

\*Alcon & Genzyme included in analysis as >25% of company sales are derived from medtech.

## Value of Venture Financing Falls 16% in H1 2014; Deal Count Decreases 24%

EvaluateMedTech® found significant decreases in both the value and number of venture financing deals in H1 2014 vs H1 2013. The total deal value of medtech venture financing fell by 16% to \$2.2bn, whilst the number of venture financing deals slumped 24% to 199.

Proteus Digital Health secured the largest financing round in H1 2014, raising \$120m in a Series G offering in June to help fund development of its digital health feedback system.



## Count of Medtech Financing Deals vs. Total Financing Value (2009 - H1 2014)

| Period           | 2009  | 2010  | 2011  | 2012  | 2013  | H1 2013 | H1 2014 |
|------------------|-------|-------|-------|-------|-------|---------|---------|
| Deal Count       | 407   | 449   | 524   | 429   | 458   | 262     | 199     |
| % Chg.           |       | 10%   | 17%   | -18%  | 7%    |         | -24%    |
| Deal Value (\$m) | 3,938 | 4,670 | 4,805 | 4,162 | 4,586 | 2,630   | 2,206   |
| % Chg.           |       | 19%   | 3%    | -13%  | 10%   |         | -16%    |

## Top 10 Medtech Venture Financing Deals: Ranked on Deal Value (H1 2014)

| Company                             | Primary Focus             | Country | Financing Round | Date      | Deal Value (\$m) |
|-------------------------------------|---------------------------|---------|-----------------|-----------|------------------|
| 1 Proteus Digital Health            | Patient Monitoring        | USA     | Series G        | 02 Jun 14 | 120              |
| 2 Adaptive Biotechnologies          | In Vitro Diagnostics      | USA     | Series D        | 07 Apr 14 | 100              |
| 3 Halt Medical                      | Obs. & Gyne.              | USA     | Series E        | 01 Apr 14 | 93               |
| 4 GC Aesthetics                     | General & Plastic Surgery | Ireland | Series A        | 21 Feb 14 | 60               |
| 5 Advanced Accelerator Applications | Diagnostic Imaging        | France  | Undisclosed     | 17 Feb 14 | 56               |
| 6 InSightec                         | Diagnostic Imaging        | Israel  | Series D        | 30 Jun 14 | 50               |
| 7 AqueSys                           | Ophthalmology             | USA     | Series D        | 16 Jan 14 | 44               |
| 8 Holaira                           | Anesth. & Resp.           | USA     | Series D        | 03 Apr 14 | 42               |
| 9 Inspire Medical Systems           | Anesth. & Resp.           | USA     | Series E        | 15 May 14 | 40               |
| 10 Benvenue Medical                 | General & Plastic Surgery | USA     | Series E        | 18 Jun 14 | 40               |
| Other                               |                           |         |                 |           | 1,562            |
| <b>Total</b>                        |                           |         |                 |           | <b>2,206</b>     |

Source: EvaluateMedTech® (18 SEP 2014)

**Note:** Includes investments in medtech companies only. Does not include pharmaceutical or biotech companies. Includes Private Investment in Public Equity (PIPE).

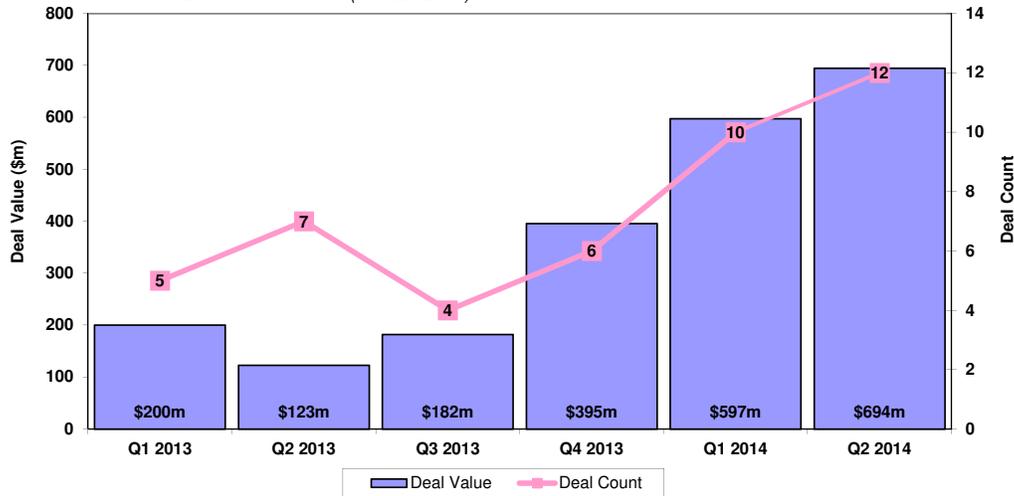
## Medtech IPO Activity Picks Up from Q4 2013; \$1.3bn Raised in H1 2014

EvaluateMedTech® found a significant increase in IPO activity in the medtech space in 2014, in terms of both value and number of closed deals. By the end of H1 2014 \$1.3bn had been raised in completed IPOs, which is 44% more than the \$900m raised in the whole of 2013.

The largest IPO in H1 2014 was Castlight Health, a healthcare IT company, which raised \$204m in March. This was almost double that raised by the second ranked company, spinal device maker K2M, which raised \$120m in May.

Quarterly Count of IPO Deals vs. Total IPO Value (Q1 2013 - Q2 2014)

Source: EvaluateMedTech® (18 SEP 2014)



Count of Medtech IPO Deals vs. Total IPO Value (Q1 2013 - Q2 2014)

| Quarter                      | Q1 2013 | Q2 2013 | Q3 2013 | Q4 2013 | Q1 2014 | Q2 2014 |
|------------------------------|---------|---------|---------|---------|---------|---------|
| Deal Count                   | 5       | 7       | 4       | 6       | 10      | 12      |
| % Chg. from previous quarter |         | 40%     | -43%    | 50%     | 67%     | 20%     |
| Deal Value (\$m)             | 200     | 123     | 182     | 395     | 597     | 694     |
| % Chg. from previous quarter |         | -39%    | 48%     | 118%    | 51%     | 16%     |

Top 10 Medtech IPO Deals: Ranked on Deal Value (H1 2014)

| Company                        | Primary Focus        | Country | Stock Exchange       | Date      | Deal Value (\$m) |
|--------------------------------|----------------------|---------|----------------------|-----------|------------------|
| 1 Castlight Health             | Healthcare IT        | USA     | NYSE                 | 14 Mar 14 | 204              |
| 2 K2M                          | Orthopedics          | USA     | Nasdaq               | 13 May 14 | 120              |
| 3 Horizon Discovery            | In Vitro Diagnostics | UK      | LSE AIM              | 27 Mar 14 | 114              |
| 4 Materialise Group            | 3D Printing          | Belgium | Nasdaq               | 25 Jun 14 | 110              |
| 5 TriVascular Technologies     | Cardiology           | USA     | Nasdaq               | 16 Apr 14 | 101              |
| 6 CYBERDYNE                    | Rehabilitation       | Japan   | Tokyo Stock Exchange | 26 Mar 14 | 88               |
| 7 Inogen                       | Respiratory          | USA     | Nasdaq               | 14 Feb 14 | 71               |
| 8 Supersonic Imagine           | Diagnostic Imaging   | France  | NYSE Euronext        | 10 Jun 14 | 69               |
| 9 Lombard Medical Technologies | Cardiology           | UK      | Nasdaq               | 25 Apr 14 | 63               |
| 10 Vital Therapies             | Liver Disorders      | USA     | Nasdaq               | 17 Apr 14 | 62               |
| Other                          |                      |         |                      |           | 285              |
| <b>Total</b>                   |                      |         |                      |           | <b>1,288</b>     |

Source: EvaluateMedTech® (18 SEP 2014)

**Note:** Does not include pharmaceutical or biotech companies.



# Enterprise Value & Focus Analysis: 2014 Latest vs. 2013

## General Electric Number 1 in Latest Enterprise Value Rankings

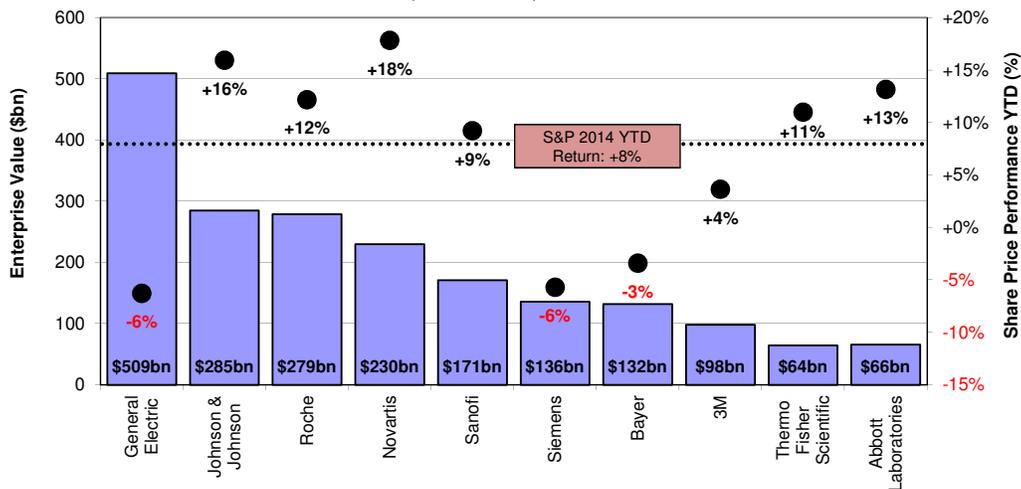
EvaluateMedTech® found US giant General Electric to be the largest company, judged by enterprise value, operating in the medtech space. With a figure of \$509bn as at 17 SEP 2014, GE is a long way ahead of the second ranked company, Johnson & Johnson, which has an enterprise value of \$285bn.

The analysis includes only medtech companies that are forecast to have sales in excess of \$1bn in 2020.

The highest ranking pure-play medtech companies are Medtronic and Covidien at positions 11 and 12, with enterprise values of \$63bn and \$61bn, respectively. Upon completion of their proposed merger, the new entity's combined enterprise value of \$124bn would move up to number 8 in the rankings.

**WW Ranking on Enterprise Value in 2014 (Latest)**

Source: EvaluateMedTech® (18 SEP 2014)



**Enterprise Value: Top 20 Medtech Companies in 2014 (2020 Sales: >\$1bn)**

| Company                    | Country         | % '14 Sales Medtech | Enterprise Value (\$bn) |              |            | Share Price (\$ ADR) |        |             |
|----------------------------|-----------------|---------------------|-------------------------|--------------|------------|----------------------|--------|-------------|
|                            |                 |                     | 2013                    | Latest       | % Growth   | 2013                 | Latest | % Growth    |
| 1 General Electric         | USA             | 8%                  | 533                     | 509          | -4%        | 28.03                | 26.27  | -6%         |
| 2 Johnson & Johnson        | USA             | 40%                 | 247                     | 285          | +15%       | 91.59                | 106.19 | +16%        |
| 3 Roche                    | Switzerland     | 22%                 | 246                     | 279          | +13%       | 278.67               | 312.63 | +12%        |
| 4 Novartis                 | Switzerland     | 12%                 | 204                     | 230          | +13%       | 80.38                | 94.72  | +18%        |
| 5 Sanofi                   | France          | 2%                  | 148                     | 171          | +15%       | 51.75                | 56.52  | +9%         |
| 6 Siemens                  | Germany         | 18%                 | 127                     | 136          | +7%        | 134.29               | 126.63 | -6%         |
| 7 Bayer                    | Germany         | 4%                  | 125                     | 132          | +6%        | 142.00               | 137.17 | -3%         |
| 8 3M                       | USA             | 17%                 | 96                      | 98           | +3%        | 140.25               | 145.37 | +4%         |
| 9 Thermo Fisher Scientific | USA             | 24%                 | 45                      | 64           | +43%       | 111.35               | 123.60 | +11%        |
| 10 Abbott Laboratories     | USA             | 46%                 | 58                      | 66           | +13%       | 38.33                | 43.38  | +13%        |
| 11 Medtronic               | USA             | 100%                | 55                      | 63           | +16%       | 57.13                | 65.98  | +15%        |
| 12 Covidien                | USA             | 100%                | 33                      | 61           | +84%       | 66.08                | 123.31 | +87%        |
| 13 Valeant Pharmaceuticals | Canada          | 19%                 | 56                      | 57           | +2%        | 117.40               | 121.85 | +4%         |
| 14 Danaher                 | USA             | 47%                 | 54                      | 55           | +2%        | 77.20                | 78.73  | +2%         |
| 15 Baxter International    | USA             | 38%                 | 44                      | 46           | +5%        | 69.55                | 72.65  | +4%         |
| 16 Kimberly-Clark          | USA             | 8%                  | 44                      | 45           | +1%        | 104.46               | 106.72 | +2%         |
| 17 Allergan                | USA             | 14%                 | 32                      | 49           | +55%       | 111.08               | 170.04 | +53%        |
| 18 Toshiba                 | Japan           | 6%                  | 30                      | 35           | +17%       | 25.41                | 27.38  | +8%         |
| 19 Philips                 | The Netherlands | 30%                 | 35                      | 34           | -5%        | 35.70                | 30.45  | -15%        |
| 20 Stryker                 | USA             | 100%                | 27                      | 31           | +14%       | 75.14                | 83.94  | +12%        |
| <b>Total Top 20</b>        |                 |                     | <b>2,238</b>            | <b>2,445</b> | <b>+9%</b> | <b>avg.</b>          |        | <b>+12%</b> |

Source: EvaluateMedTech® (18 SEP 2014)

**Note:** Includes companies with >\$1bn medtech sales in 2020. Valuation based on share price close and valuation on 17 SEP 2014.

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For general inquires about this report:  
**Christine Lindgren**  
Tel: 1-617-573-9458  
Email: [christine.lindgren@evaluategroup.com](mailto:christine.lindgren@evaluategroup.com)



**Evaluate – Headquarters** – Evaluate Ltd, 11-29 Fashion Street, London E1 6PX United Kingdom  
Tel: +44 (0)20 7377 0800 – Fax: +44 (0)20 7539 1801

**Evaluate – North America** – EvaluatePharma USA, Inc., 15 Broad Street, Suite 401, Boston, MA 02109 USA  
Tel: 1-617 573-9450 – Fax: 1-617 573-9542

**Evaluate – Japan** – EvaluatePharma Japan KK, Tokyo, Japan  
Tel: +81 (0) 80 1164 4754

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