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M&A ANALYSIS - EXPANDED ONLINE VERSION

M&As Key to Device Growth Strategies

M&A activity continued to be strong in 2008, providing a lucrative option for companies seeking to grow. More of the same is expected in the coming year.

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Merger and acquisition (M&A) activity continued to be strong in all segments of the medical device industry over the past year, despite a generally difficult economic environment and tight credit markets. HT Capital Advisors tracked a total of 347 M&A transactions in the first nine months of 2008, which was virtually identical to the number in the same period in 2007. These included 277 closed transactions and 70 announced and pending transactions.



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In terms of foreign involvement, 139 transactions had European participation, and 38 involved Asian companies, a significant increase from a year ago. These transactions constituted more than \$38 billion in value, with nine transactions exceeding \$1 billion, 21 with transaction values between \$100 million and \$1 billion, and 128 with less than \$100 million in value. The remaining 189 transactions were of undisclosed value.

Purchase-price multiples overall were down from 2007. For transactions with disclosed data, purchase-price-to-revenue multiples ranged from 0.1 times to 29.1 times, with an average of nearly 3.5 times and a median of 2.3 times. The average in 2007 was 4.2 times. Although not quite as high as last year, many transactions required bids of more than 20 times earnings before interest, tax, depreciation, and amortization (EBITDA). The price-to-EBITDA multiples ranged from 0.44× to 168.9×, with an average of 20.9× and a median of 15.3×. The average in 2007 was nearly 24 times.

For publicly traded targets, the average one-day price premium was 32%, as was the average one-month price premium. So, while the averages were down, this is only relatively speaking. With average middle-market multiples typically in the range of less than one times sales and five times EBITDA, medical device companies continue to sell for higher multiples than the average middle-market company.

An Attractive Market for Investment

A Sampling of 2008 Medical Device Industry Mergers & Acquisitions

Deal Size (\$ millions)	Buyer	Unit Purchased	Date Closed
10599.81	Novartis AG-Reg	Alcon Inc.	4/7
1682.52	Kinetic Concepts Inc.	LifeCell Corp.	4/7
713	GE Healthcare	Whatman plc	2/4
516.31	Hologic Inc.	Third Wave Technologies	6/9
490	Cardinal Health Inc.	Enturia Inc.	3/4
310.75	Bayer Schering Pharma AG	Possis Medical Inc.	2/11
100.06	Medifiq Healthcare OY	Coltene Holding AG's medical business	2/28
81.31	St. Jude Medical Inc.	EP Medsystems Inc.	4/9
75.00	Elekta AB-B SHS	CMS Inc.	1/8
70.26	Covidien Ltd.	Tissue Science Laboratories	3/12
68.75	Analogic Corp.	Copley Controls Corp.	3/6
61.44	Opto Circuits India Ltd.	Criticare Systems Inc.	2/25
59.6	CR Bard Inc.	Specialized Health Products Intl.	3/10
44.00	Johnson & Johnson	AMIC	6/18
35.00	Nuvasive Inc.	Osiris Therapeutics Inc.'s Osteocel business	5/8
31.5	International Brachytherapy-B	Bebig GMBH	2/18
29.5	Heraeus Holding GMBH	Assets of Synovis Life Technologies Inc.	1/8
24.00	St. Jude Medical Inc.	Datascope Corp.'s vascular closure business	8/7
19.68	General Electric Co.	Image Diagnost Intl.	2/1
18.21	Medtronic Inc.	Restore Medical Inc.	4/22
12	Volcano Corp.	Novelis Inc.	5/19
11.2	Bracco SPA	Heart Leaflet Technologies Inc.	1/23
10.6	Boston Scientific Corp.	Cryocor Inc.	4/16
10	Spectranetics Corp.	Endovascular business of Kensey Nash Corp.	5/13
8.58	Biocompatibles Intl. PLC	Brachysciences Inc.	7/25
8.3	Exactech Inc.	France Medica SAS	2/27
8	Angiodynamics Inc.	Certain assets of Diomed Holdings Inc.	4/10
6.7	Invitrogen (now Applied Biosystems)	Applera's Applied Biosystems	6/12

4.1	Nordic Capital and Avista Capital Partners	ConvaTec	7/15
3	Angiodynamics Inc.	Certain assets of Diomed Holdings Inc.	4/10
2.1	Wright Medical Group Inc.	Certain assets of AM Surgical Inc.	6/9
1.83	Respironics Inc.	Certain assets of Chad Therapeutics Inc.	3/6
<p>Table I. A sampling of significant mergers and acquisitions in the medical device industry in 2008. Mergers are ranked by deal size. Sources: Capital IQ and HT Capital Advisors LLC.</p>			

As predicted in last year's analysis, large leveraged transactions by private equity firms in which the debt is syndicated has virtually ceased in today's market. Strategic buyers, particularly since the middle of 2008, are essentially the only players for transactions in excess of \$1 billion. Strategic buyers in the medical device space are interested in growth through innovative technologies and new markets, and 2008 was a particularly good year for them.

In the smaller transaction market, however, private equity cannot be written off. Many middle-market private equity firms have raised funds in the past couple of years ranging from \$100 million to \$500 million or more and have a great deal of aggregate capital to put to work. To survive, they will have to be creative yet conservative until cash flow lending bounces back. They may embark on buy-and-build strategies in more asset-intensive niches, such as distribution, and use asset-based lending to finance deals. Or they might have to increase the amount of equity used in their transactions, at least compared with normal standards of 20–30% equity, to buy fundamentally healthy businesses. When market conditions permit, they can rely upon a subsequent leveraged refinancing to realize their targeted returns.

On the bright side for medical device companies considering bringing in private equity partners, the anticyclical perception of the industry continues to be very interesting as an investment strategy. We also expect the average private equity investment time frame to increase, from about 2–5 years to perhaps 4–7 years, which is good news for companies looking for long-term relationships.

In another sign of the industry's attractiveness, venture capital investment in devices and equipment remains strong. HT Capital tracked 302 venture-stage transactions valued at more than \$2.6 billion in aggregate for the first nine months of 2008, as compared with 278 deals for the same period in 2007. The investments were in companies from all over the globe, including 194 in the United States and 73 in Europe . All of this venture capital activity bodes well for future availability of merger and acquisition candidates.

Orthopedics Dominate Activity

As in prior years, there was a lot of acquisition activity in the orthopedic segment, particularly in the spine area. The estimated \$7 billion spine market to date has been dominated by Medtronic/Sofamor Danek, which has an approximate 50% market share. In addition to Stryker and Johnson & Johnson's DePuy unit, there are many other smaller players, which were active acquirers over the past year.

Zimmer Holdings agreed to acquire Abbott's spine operation for \$360 million (3.3 × revenues of

\$109 million) . The Abbott products will expand Zimmer's product offerings and will also strengthen its research capability and sales coverage. Zimmer had made known its desire to develop a spinal business since its acquisition of Centerpulse in 2003 and Endius in 2007 for \$80 million.

Diversified medical device company Integra LifeSciences, which has been a very active acquirer in the past few years, significantly increased its orthopedic activity with the acquisition of the Theken Family of Companies, which had sales in 2007 of \$34 million. Since its founding in 1996, Theken has developed a strong reputation for developing many products used in spinal surgery, including a revolutionary artificial spinal disk replacement. In recognition of its outstanding potential, the acquisition price was \$47 million cash, plus up to an additional \$125 million tied to the achievement of sales levels for the two years after closing.

Another spine transaction with the final acquisition price tied to future performance was Synthes's acquisition of N Spine (the transaction closed on the last day of 2007). N Spine has developed a number of devices to treat spinal disorders using posterior dynamic stabilization. The cash purchase price was \$30 million, plus an additional \$45 million if certain goals are met. What may have prompted the transaction was a collaboration resulting in one of N Spine's products receiving FDA 510(k) clearance to be used with a Synthes product in lumbar fusion applications.

Focus on Ophthalmics

A significant transaction in the \$25 billion eye-care segment, which in the past has not seen much M&A activity, was Novartis's April agreement with Nestle S. A. The agreement grants Novartis the right to acquire majority ownership of eye-care leader Alcon (2007 sales \$5.6 billion and net income of \$1.6 billion). Novartis completed the first step by acquiring for \$11 billion a 25% stake in Alcon. It has the right to acquire Alcon's remaining 52% interest between January 2010 and July 2011. With sales over \$38 billion and net income of \$6.5 billion, Novartis is a powerhouse diversified healthcare company, known to focus its acquisition efforts on high-growth areas.

Eye care is forecast to grow significantly due to increasing unmet needs of the world's aging population. Alcon is the undisputed leader in the three segments of eye care—surgical, pharmaceutical, and eyeglass lens and other consumer products. Another eye-care transaction was the acquisition by Bausch & Lomb (2007 sales about \$2.5 billion, and EBITDA over \$400 million) of privately held Eyeonics Inc. With sales of \$34 million in 2007, Eyeonics developed the first and only FDA-approved Crystalens intraocular lens for the treatment of cataracts, which has been implanted in more than 100,000 patients worldwide. The Crystalens technology of Eyeonics complements Bausch & Lomb's cataract surgical business, and with Bausch & Lomb's international sales and marketing organization, the growth prospects for Eyeonics's products are very promising. The acquisition price was not disclosed.

Augmenting Patient-Monitoring Portfolios

In the patient-monitoring area, GE Healthcare, the \$17 billion medical device unit of General Electric Co., acquired Vital Signs Inc., which has a broad product offering of innovative single-patient-use products, with effective infection-preventive features. Vital Signs will become part of GE Healthcare's Clinical Systems business, which provides advanced technologies of patient monitoring, anesthesia delivery, and acute respiratory care. The purchase price was in excess of \$1 billion ($4.5 \times$ sales and $17.1 \times$ EBITDA). The two companies have products that complement one another, and GE Healthcare, which is headquartered in the UK, has a broad international distribution system through which it will push Vital Signs products.

Another acquisition in the patient-monitoring area was Covidien's acquisition of CardioDigital Inc., which specializes in the development of advanced signal-processing techniques for patient monitoring. Covidien was probably attracted to CardioDigital because its products complement its long-established, market-leading Nellcor pulse oximetry product line.

Finally, private equity firm Riverside Partners purchased Dome Imaging—the medical display division of Planar Systems—to add to its existing portfolio company NDS Surgical Imaging.

From Biosurgery to Wound Care

There were two transactions in the biosurgery market, which is rapidly growing due to increased emphasis being placed on successful, cost-effective patient outcomes. Kinetic Concepts Inc. (KCI), a global leader in advanced wound care and therapeutic support systems, acquired publicly held LifeCell Corp., a leader in innovative tissue-repair products used in reconstructive and orthopedic surgical procedures. The cash purchase price was a hefty \$1.7 billion (10 × 2007 sales of \$167 million). LifeCell would have been a nice fit for many other companies, and the high price leads us to believe that this was a very competitive sales process. LifeCell is the clear leader in the fast-growing biologics market and will expand KCI's biosurgery and surgical suite product lines. By capitalizing on LifeCell's strong relationships with acute-care physicians, KCI now has a better platform for launching its next-generation negative-pressure-based products for the surgery suite.

One of the largest transactions over the past year was Bristol-Myers Squibb's divestiture of its global wound-care and ostomy supply unit ConvaTec. ConvaTec was acquired by two private equity funds—Avista Capital Partners and Nordic Capital—for \$4.1 billion (3.5 × sales of about \$1.2 billion). ConvaTec has been combined with Unomedical, based in Denmark, a leading manufacturer of single-use medical devices, including infusion sets, sold to insulin pump companies. Unomedical has sales of about \$400 million and was a portfolio company of Nordic Capital, which is based in Copenhagen. The combined company will operate under the ConvaTec name and will be a global powerhouse in the specialty hospital device and wound-care market. Avista was no stranger to Bristol-Myers Squibb's divestiture program, having previously acquired its medical imaging business.

Avista, one of the most active private equity firms over the past year, also acquired Boston Scientific's fluid management and venous access business for \$425 million in cash. This transaction was one of many over the past year resulting in the creation of new stand-alone medical device companies. Most large medical device companies have operations that are not strategic to their basic businesses, and we expect more divestiture spin-offs over the next year. Also, it would not surprise us to see some of the larger pharmaceutical companies follow Bristol-Myers Squibb's lead and divest some of their medical device operations.

Healthy Heartbeat for Cardio Sector

As has been the case for the past several years, in 2008 there were many acquisitions in the cardiovascular area. The specific cardiovascular problem of atrial fibrillation has drawn a lot of attention from the major cardiovascular companies. Atrial fibrillation is estimated to affect more than 5 million patients worldwide and to be a potential \$4 billion market in terms of annual sales in the United States alone. Johnson & Johnson has an innovative ablation catheter product believed to be headed for FDA approval in mid-2009.

In an effort to enhance their chances of adding an FDA-approved ablation catheter, atrial fibrillation product to their stables of products, both Medtronic and St. Jude Medical (SMJ) made

acquisitions. In April, SMJ acquired EP Medsystems for approximately \$92 million ($5 \times$ sales of about \$19 million). EP has a line of products used in the visualization, diagnosis, and treatment of cardiac rhythm disorders, that complement SMJ's products and ablation catheter development efforts.

The most talked about transaction, in what is believed to have been an intense competitive sale process, was Medtronic's proposed acquisition of publicly held CryoCath for \$380 million ($10 \times$ sales and a 97% premium over CryoCath's stock price the day before the transaction was announced). The acquisition improves Medtronic's chances of winning the race to obtain one of the first FDA approvals of an ablation catheter to treat atrial fibrillation. CryoCath's flagship product, Arctic Front, a minimally invasive cryoballoon catheters has been used effectively in Europe on more than 3000 patients, and FDA approval is expected by early 2010.

Bayer Healthcare enhanced its product line in the cardiovascular intervention field through the acquisition by its Medrad division of publicly held Possis Medical for \$360 million ($5 \times$ 2007 sales of \$67 million). Possis provides mechanical thrombectomy devices to treat narrowed or blocked arteries and veins. Possis is a nice fit with Medrad's contrast injection systems used to diagnose cardiovascular and other diseases. Medrad has a broad international distribution system through which Possis's products can be distributed to previously untapped markets.

With the acquisition of Datascope Corp., Getinge AB, Sweden 's major diversified medical device company, will further its previously stated goal to build its cardiovascular division into a world-leading business focusing on cardiac surgery, cardio assist, and vascular intervention. The price was \$865 million ($3.7 \times$ sales and $12.9 \times$ EBITDA). Datascope produces a broad line of products for vascular surgery and endovascular interventions, and its intravascular products will expand Getinge's product offerings to the rapidly growing peripheral vascular stent market. Probably to position itself for a sale transaction involving its most attractive products, Datascope had previously sold its vascular closure business to St. Jude Medical for about \$24 million.

Notable Deals in Diagnostics and Analytics

Activity in the diagnostics and analytics areas remained brisk in 2008, with several notable deals. In January, UK-based GE Healthcare announced the acquisition of Whatman plc for \$750 million ($3.2 \times$ sales and $16.2 \times$ EBITDA). Whatman, a leader in sample separation and filtration technology, provides GE with the skills to provide earlier diagnosis and treatment of diseases.

In June, Invitrogen and Applera Corp.'s Applied Biosystems Inc. (ABI) Group reached a \$6.5 billion merger agreement. The transaction implies a valuation of 2.8 times ABI's revenue, and 12.5 times its EBITDA. The combination was touted as creating an across-the-board, best-in-class line-up of product offerings, a broader selling organization, a more substantial platform for entrance into new, high-growth markets, and other revenue and cost synergies. Perhaps most importantly in today's cash-is-king environment, the combined company will generate more than 70% of its revenue from recurring consumable and service revenue. As is often the case in merger transactions, potential synergistic cost savings can be the impetus to completing a transaction. In fact, in October the companies announced that they expected cost savings to be "at least \$80 million." Then in July, Hologic acquired Third Wave Systems for \$567 million ($16.4 \times$ sales). The acquisition is expected to significantly broaden Hologic's range of offerings in high-growth diagnostic market for women's health.

In an example of the increased occurrence of cross-border transactions, on August 14 diagnostics company Nanogen announced that it had entered into a definitive agreement to be acquired in a reverse merger transaction with privately held, Puteaux, France-based ELITech Group. The deal

came as a result of Nanogen evaluating its strategic alternatives in an aggressive bid to achieve profitability faster and with greater predictability. The combined company will be a global provider of products to the molecular, point-of-care, clinical chemistry, and microbiology diagnostics markets with sales of about \$150 million.

The transaction is a good example of the increasing importance of access to global distribution for medical products. ELITech has a broad international distribution system through which Nanogen's products can now be sold worldwide. The valuation of Nanogen was approximately 1.3 times trailing revenues, which was rather conservative relative to other diagnostic company benchmarks generally in the 2–5 times revenue range.

Switching directions, in April Solvay Pharmaceuticals of Brussels offered to buy fellow Belgian diagnostic products company Innogenetics NV for \$350 million. Then in June, Gen-Probe (San Diego) launched a competing bid of \$346 million, but backed away in July after it was asked to raise its bid. Solvay then consummated the acquisition in September through a tender offer at 3.9× sales and 47× EBITDA. Solvay has a dual strategy in mind with Innogenetics: expansion of the diagnostics business and leverage of both companies R&D to accelerate the development of Solvay's therapeutic line.

Components Companies Active, Too

As in past years, the leading diversified precision OEM component companies, among them Emerson, Danaher, Parker Hannifin, Moog, Greatbach, Surmodics—as well as many private equity funds with precision component platforms—continued to seek acquisition of component companies with products addressing the needs of medical device companies. Essentially they are attracted to the relative stability and better growth prospects of the medical device industry.

Parker Hannifin Corp., a global leader in motion control technology components with \$12 billion in annual sales, acquired HTR Holding Corp. (Hi-Tech Rubber) with \$93 million in sales. HTR has several divisions providing precision plastic and elastomeric sealing and other components for medical devices such intravenous equipment, drug infusion pumps, septums, respiratory hoses, catheters, and diaphragms. Parker Hannifin has stated that one of its objectives is to get greater access to the medical device market. With that achieved, the company will be the core of Parker Hannifin's newly formed Medical Systems Division.

Parker also acquired Hargraves Technology Corp., a small but highly regarded leader in the innovative design and manufacture of miniature liquid and pneumatic diaphragm pumps and valves used to control the movement and direction of precise amounts of fluid in medical devices and instrumentation. Hargraves will become part of Parker Hannifin's newly formed Precision Fluidics Division, which focuses on medical, analytical, and life science industries. The purchase price was \$36 million (2.6 × sales of \$14 million).

A cross-border transaction was Belgium-based SAES Getters's acquisition of publicly held Memry Corp. for \$78 million (1.4 × sales of \$57 million and 15.1 × EBITDA). Memry is the leading independent producer of nitinol and polymer components sold primarily to medical device customers, and it has some unique proprietary shape-memory alloy and polymer-extrusion technologies. Among Memry's many OEM customers are Medtronic, Boston Scientific, and Covidien.

What's in Store for 2009

Despite the current credit crunch and shaky economic environment in the United States and

worldwide, we expect medical device merger and acquisition activity to continue to be strong in the coming year. Unlike many industries, the medical device industry has growth momentum and is perceived as being recession resistant because so many medical procedures are truly essential rather than discretionary.

Demographic factors worldwide favor the industry as the aging population increases. And as emerging markets such as China and India grow, their populations will become a major market for the industry. As has been the case for many years, mergers and acquisitions will continue to play a major role in the growth strategies of the major medical device companies as they seek to add to their product lines, enhance their technological capabilities, and broaden their distribution reach. Their activity will probably continue to be the major driving force behind the expected continuation of the industry's consolidation trend.

If financial markets remain unstable, tight credit conditions continue, and the market for initial public stock offerings (IPOs) remains virtually dead, 2009 may shape up as a tremendous “buyers' market” for the industry's major cash-rich companies as well as for medical device companies owned by private equity firms.

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HT Capital Advisors LLC (New York City, Chicago, and Paris) is a private investment-banking firm with a group devoted to the medical devices and components industry. The firm offers financing, merger and acquisition, valuation, management buyout, and recapitalization services.