2014 ANNUAL REPORT

Harvard Bioscience

Solutions to Advance Life Science

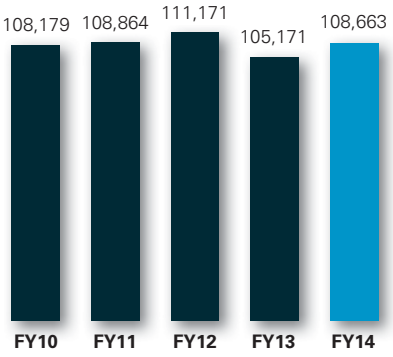
Jeff Duchemin

Jeffrey A. Duchemin was appointed Chief Executive Officer on August 26, 2013. He assumed the additional roles of President on November 1, 2013 and Director on October 29, 2013. Prior to joining Harvard Bioscience, Mr. Duchemin spent 16 years with Becton Dickinson (BD) in progressive sales, marketing and executive leadership positions across BD's three business segments; BD Medical Systems, BD Diagnostic Systems, and BD Biosciences. Mr. Duchemin earned an M.B.A. from Southern New Hampshire University and a B.S. in accounting from the University of Massachusetts Dartmouth.

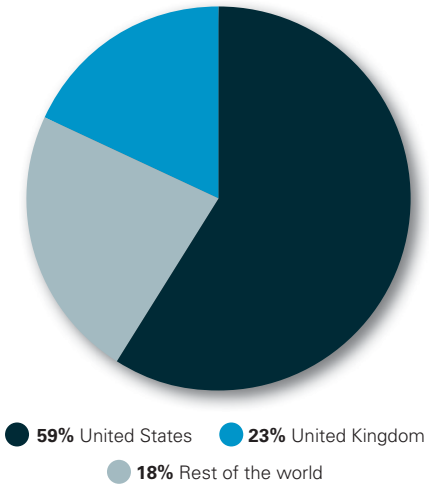
Financial Highlights

Revenues

($ U.S. in thousands)

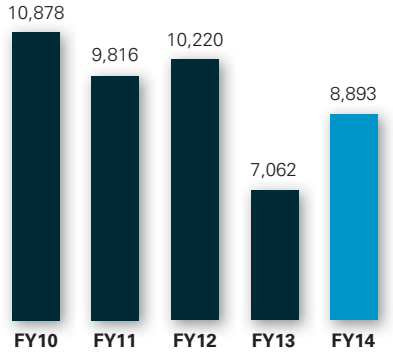


2014 Revenues by Region



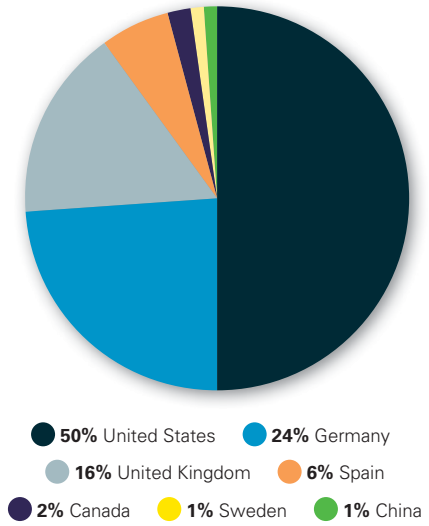
Non-GAAP Adjusted Income from Continuing Operations

($ U.S. in thousands)



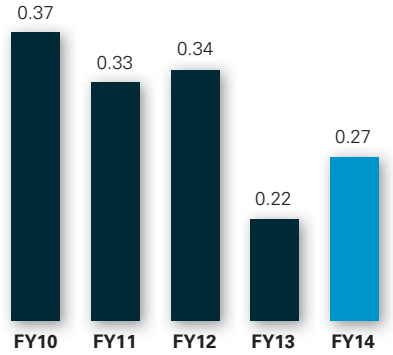
Employees by Country

(As of December 31, 2014)



Non-GAAP Adjusted Diluted EPS

($ U.S.)



In this annual report, we have included non-GAAP financial information including adjusted income and adjusted earnings per diluted share from continuing operations. We believe that this non-GAAP financial information provides investors with an enhanced understanding of the underlying operations of the business. This non-GAAP financial information approximates information used by our management to internally evaluate our results. In particular, we believe that the presentation of non-GAAP adjusted income from continuing operations, including a number of adjusted line items, provides investors with a clearer understanding of the full effect of the adjustments that we make to our GAAP income and earnings per diluted share from continuing operations in order to derive our non-GAAP adjusted income and earnings per diluted share from continuing operations. A tabular reconciliation of these non-GAAP adjusted results can be found at Exhibit 1 and 2.

Financial Performance

Selected Financial Data

	For The Years Ended December 31,				
	2014	2013	2012	2011	2010
	(in thousands, except per share data)				
Statement of Operations Data:					
Revenues	$108,663	$105,171	$111,171	$108,864	$108,179
Cost of revenues	59,319	57,475	58,831	58,672	56,400
Gross profit	49,344	47,696	52,340	50,192	51,779
Operating expenses	42,726	46,159	44,510	41,787	40,938
Operating income	6,618	1,537	7,830	8,405	10,841
Other expense, net	(2,201)	(1,102)	(938)	(1,537)	(655)
Income from continuing operations before income taxes	4,417	435	6,892	6,868	10,186
Income tax expense (benefit)	2,062	(288)	2,398	1,579	(9,452)
Income from continuing operations	2,355	723	4,494	5,289	19,638
Discontinued operations (1):					
Loss from discontinued operations, net of tax	–	(2,553)	(2,124)	(1,477)	(623)
Net income (loss)	$ 2,355	$ (1,830)	$ 2,370	$ 3,812	$ 19,015
Earnings (loss) per share:					
Basic earnings per common share from continuing operations	$ 0.07	$ 0.02	$ 0.16	$ 0.19	$ 0.68
Discontinued operations	0.00	(0.08)	(0.07)	(0.05)	(0.02)
Basic earnings (loss) per common share	$ 0.07	$ (0.06)	$ 0.09	$ 0.14	$ 0.66
Diluted earnings per common share from continuing operations	$ 0.07	$ 0.02	$ 0.15	$ 0.18	$ 0.67
Discontinued operations	0.00	(0.08)	(0.07)	(0.05)	(0.02)
Diluted (loss) earnings per common share	$ 0.07	$ (0.06)	$ 0.08	$ 0.13	$ 0.65
Weighted average common shares:					
Basic	32,171	30,384	28,799	28,451	28,967
Diluted	33,237	31,914	29,793	29,819	29,405

	As of December 31,				
	2014	2013	2012	2011	2010
	(in thousands)				
Balance Sheet Data:					
Cash and cash equivalents	$ 14,134	$ 25,771	$ 20,681	$ 17,916	$ 19,704
Working capital	38,964	44,665	49,071	48,004	47,270
Total assets	135,916	135,460	133,484	126,634	124,797
Long-term debt, net of current portion	16,450	19,750	12,950	16,300	18,009
Stockholders' equity	95,468	94,485	104,213	95,499	90,248

Please refer to Item 6 beginning on page 25 in our Annual Report on Form 10-K for the year ended December 31, 2014, included herein, for footnotes to our Selected Financial Data.

Karl-Heinz Boven

Karl-Heinz Boven founded Multi Channel Systems (MCS) in 1996 with Andreas Möller. MCS is a developer, manufacturer and marketer of instrumentation for extracellular recording and stimulation. Prior to founding MCS, Mr. Boven held progressive positions in the field of bioelectronics at Schaerfe System GmbH, Germany. He is currently a Director of R&D at Harvard Bioscience. Mr. Boven holds a diploma in physics with a major in computational neuroscience from the University of Tübingen.

Dear Fellow Shareholders

2014 was a transformational one for Harvard Bioscience. We returned the Company to organic revenue growth after a year of decline, acquired two companies specializing in electrophysiology equipment and, beginning in December 2013, began a multiple-year restructuring program to reduce costs, align global functions, consolidate facilities and reinvest in key areas, including our commercial and IT teams. Our vision continues to be a world-leading life science company that excels in meeting the needs of our customers by providing a wide breadth of innovative products and solutions, while providing exemplary customer service. The accomplishments of 2014 brought us closer to that vision, with the end goal of creating a stronger, more focused company, and ultimately maximizing shareholder value.

Throughout 2014, I have spoken with our employees, existing and potential investors, customers, suppliers and analysts covering our Company about our four-pillar strategy to achieve top-line and bottom-line growth: commercial excellence and organic growth, new product development, acquisitions and operational efficiencies.

Commercial Excellence and Organic Growth

The most important pillar to achieve our goals is commercial excellence and organic growth. Our functional realignment and reinvestment in our commercial team has created a reinvigorated sales and marketing organization strongly focused on advancing our global growth initiatives. I am happy to report that our commercial teams are executing to plan, resulting in a return to revenue growth. Revenues for the year ended December 31, 2014 increased 2.4 percent, on a constant currency basis, to $108.7 million, compared to revenues of $105.2 million for 2013.

Looking ahead, we are positioning ourselves for growth by completing our commercial organization in China, and we are preparing to build exposure into other Asian countries, including Korea and Japan, as well as Southeast Asia. We are also looking to Latin America as another growth region and expanding our commercial team to capitalize on this opportunity.

To help prepare for our continued growth, we announced in February the appointment of Ryan Atienza to the newly created position of Vice President of Sales at our Denville Scientific subsidiary. I have worked with Ryan in the past and have every level of confidence that he will be an important contributor to the sales growth of our North American consumable products, an integral component of our revenue base.

With these building blocks in place, and having developed new channel relationships through the year, we are in a strong position to capitalize on further growth opportunities into 2015 and beyond.

New Product Development

Our principal research and development mission is to develop products that address growth opportunities and customer needs within the life science process. Over the past year, we have made it a priority to reinvigorate product development, with the goal of accelerating the path from concept to commercialization. Illustrating the success of this new approach was our successful launch of the OxyletPro system for metabolic monitoring, which was introduced in July 2014. It measures respiration and metabolism, animal activities and food intake. The product has been well accepted in Europe, Asia, Latin America and the U.S.

As we look to 2015 and beyond, we will continue to invest in and pursue a balanced development portfolio strategy of originating new products from internal research and development. Our internal process will continue to be complemented by our third pillar—acquisitions. Expanded product offerings through acquisitions will only strengthen our Company as we use our well-established brands and distribution channels to accelerate growth of the acquired products.

Acquisitions

During the fourth quarter and into the first month of 2015, we successfully completed the acquisitions of three companies specializing in electrophysiology equipment, an approximately $100 million market and important segment in academic research and drug discovery. Our first acquisition, Multi Channel Systems MCS GmbH, develops, manufactures and markets instrumentation for extracellular recording and stimulation. Our second acquisition, Triangle BioSystems Inc., develops, manufactures and markets wireless neural interface equipment to aid in vivo neuroscience research. Our third acquisition, HEKA Elektronik, which we acquired in January 2015, specializes in patch clamp amplifier instrumentation for biomedical research applications. Combined, these three companies complement our existing electrophysiology product line offered through our Warner Instruments brand. As a result, we now offer the most comprehensive set of solutions for electrophysiology customers.

The fourth quarter results of Multi Channel Systems MCS GmbH and Triangle BioSystems, Inc. were included in our 2014 consolidated financial statements and have already started to produce positive results for us, adding to our top-line. We do not intend to stop here. Acquisitions will continue to be an integral part of our growth strategy. Our acquisition pipeline is full and we will continue to strategically approach business development opportunities that align with our business strategy and core competencies.

Operational Efficiencies

Our operational strategy aims to continuously improve our operational efficiency across the Company. As part of our multiple-year restructuring program, in 2014 we initiated several site consolidation plans, including the relocation of our Denville Scientific distribution business to a new state-of-the-art distribution center in Charlotte, NC, and the consolidation of our Biochrom manufacturing operations into our facility in Holliston, MA. We expect to incur costs of approximately $750 thousand to $1 million in 2015 related to these moves, while the relocation and consolidation of these facilities will result in savings of approximately $750 thousand to $1 million annually beginning in 2016.

I will conclude my comments by stating that these are exciting times for Harvard Bioscience. The work ahead of us will not be easy, but I believe our 2014 accomplishments have positioned us for future success in the coming years. Our strategic path forward is clear. Using the four-pillar strategy as our foundation, we will continue to work as an organization to build shareholder value, while striving to meet all the needs of our customers in the complex environment of the life science industry.

Sincerely,

Jeffrey A. Duchemin
President & Chief Executive Officer

Andreas Möller

Andreas Möller founded Multi Channel Systems (MCS) in 1996 with Karl-Heinz Boven. MCS is a developer, manufacturer and marketer of instrumentation for extracellular recording and stimulation. Prior to founding MCS, Mr. Möller worked in the field of experimental nuclear physics at the University of Tübingen. He is currently a Director of R&D at Harvard Bioscience. Mr. Möller holds a M.Sc. in Physics from the University of Tübingen.

Corporate Information

Our Company

Harvard Bioscience, Inc., a Delaware corporation, is a global developer, manufacturer and marketer of a broad range of scientific instruments, systems and lab consumables used to advance life science for basic research, drug discovery, clinical and environmental testing. Our products are sold to thousands of researchers in over 100 countries through our global sales organization, websites, catalogs, and through distributors including Thermo Fisher Scientific Inc., VWR, GE Healthcare, and other specialized distributors. We have sales and manufacturing operations in the United States, the United Kingdom, Germany, Sweden, Spain, France, Canada and China. Our vision is to be a world-leading life science company that excels in meeting the needs of our customers by providing a wide breadth of innovative products and solutions, while providing exemplary customer service.

Board of Directors

Robert Dishman, PhD
Formerly Chairman & CEO
Tarpon Biosystems, Inc.

Jeffrey A. Duchemin
Our President & Chief Executive Officer

David Green
CEO
Harvard Apparatus Regenerative Technology, Inc.

Neal J. Harte, CPA
President
TACS Group

John F. Kennedy
Formerly President & CFO
Nova Ventures Corporation

Earl R. Lewis
Chairman
FLIR Systems, Inc.

Bertrand Loy
President & CEO
Entegris, Inc.

George Uveges
Principal
Tallwood Group

Price Range of Common Stock*

Year Ended December 31, 2014

Quarter	High	Low
First	$ 4.88	$ 4.10
Second	$ 4.74	$ 3.73
Third	$ 4.90	$ 4.09
Fourth	$ 5.67	$ 4.14
FY 2014 average		$ 4.53
FY 2014 closing		$ 5.67

Year Ended December 31, 2013

Quarter	High	Low
First	$ 4.61	$ 3.25
Second	$ 4.32	$ 3.45
Third	$ 4.28	$ 3.60
Fourth	$ 5.07	$ 3.76
FY 2013 average		$ 4.03
FY 2013 closing		$ 4.70

Management

Jeffrey A. Duchemin
President & Chief Executive Officer

Robert E. Gagnon
Chief Financial Officer

Yong Sun
Vice President, Strategic Marketing and Business Development

Vice President, Research & Development

Yoav Sibony
Vice President, Global Sales

Stock Profile

Since the Company's initial public offering on December 7, 2000, shares of Harvard Bioscience, Inc. have been quoted on the Nasdaq Global Market, and currently trade under the symbol "HBIO".

As of March 6, 2015, the Company had 168 stockholders of record. The Company believes that the number of beneficial owners of our common stock at that date was substantially greater.

Corporate Address

HARVARD BIOSCIENCE, INC.
84 October Hill Road
Holliston, Massachusetts 01746
www.harvardbioscience.com

Independent Registered Public Accounting Firm

KPMG LLP
Two Financial Center
60 South Street
Boston, Massachusetts 02111
www.kpmg.com

General Counsel

Burns & Levinson LLP
125 Summer Street
Boston, Massachusetts 02110

Transfer Agent & Registrar

COMPUTERSHARE LIMITED
250 Royall Street
Canton, Massachusetts 02021

Annual Meeting of Stockholders

The Annual Meeting of Stockholders of Harvard Bioscience, Inc. will be held on Thursday, May 28, 2015 at 11:00 a.m. local time, at the offices of Burns & Levinson LLP, 125 Summer Street, Boston, Massachusetts 02110.

Investor Relations

To obtain copies of this annual report or other financial information, please write or call:

Investor Relations
Harvard Bioscience, Inc.
84 October Hill Road
Holliston, Massachusetts 01746
508-893-8066

Dividends

Harvard Bioscience, Inc. has never declared or paid cash dividends on its common stock and currently has no plans to do so in the foreseeable future.

**Reflects the stock price ranges as adjusted for the spin-off of HART which was consummated on November 1, 2013, for the 2013 periods presented.*

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

☒ **Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**
For the fiscal year ended December 31, 2014
or
☐ **Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

For the transition period from to
Commission File Number 001-33957

HARVARD BIOSCIENCE, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**04-3306140**
(State or other jurisdiction of Incorporation or organization)	(I.R.S. Employer Identification No.)

84 October Hill Road, Holliston, Massachusetts 01746
(Address of Principal Executive Offices, including zip code)

(508) 893-8999
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Name of each exchange on which registered**
Common Stock, $0.01 par value	**The NASDAQ Global Market**
Preferred Stock Purchase Rights	

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES ☐ NO ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. YES ☐ NO ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES ☒ NO ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES ☒ NO ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐		Accelerated filer ☒
Non-accelerated filer ☐	(Do not check if a smaller reporting company)	Smaller reporting company ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act. YES ☐ NO ☒

The aggregate market value of 30,389,116 shares of voting common equity held by non-affiliates of the registrant as of June 30, 2014 was approximately $138,270,478 based on the closing sales price of the registrant's common stock, par value $0.01 per share on that date. Shares of the registrant's common stock held by each officer and director and each person known to the registrant to own 10% or more of the outstanding voting power of the registrant have been excluded in that such persons may be deemed affiliates. This determination of affiliate status is not a determination for other purposes. The registrant has no shares of non-voting common stock authorized or outstanding.

At March 6, 2015, there were 33,164,780 shares of the registrant's common stock issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Company's definitive Proxy Statement in connection with the 2015 Annual Meeting of Stockholders (the "Proxy Statement"), to be filed within 120 days after the end of the Registrant's fiscal year, are incorporated by reference into Part III of this Form 10-K. Except with respect to information specifically incorporated by reference in this Form 10-K, the Proxy Statement is not deemed to be filed as part hereof.

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HARVARD BIOSCIENCE, INC.
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ANNUAL REPORT ON FORM 10-K
For the Year Ended December 31, 2014
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This Annual Report on Form 10-K contains statements that are not statements of historical fact and are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 (the "Exchange Act"), each as amended. The forward-looking statements are principally, but not exclusively, contained in "Item 1: Business" and "Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations." These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about management's confidence or expectations, our business strategy, our ability to raise capital or borrow funds to consummate acquisitions and the availability of attractive acquisition candidates, our expectations regarding future costs of product revenues, our anticipated compliance with the covenants contained in our credit facility, the adequacy of our financial resources and our plans, objectives, expectations and intentions that are not historical facts. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "could," "would," "seek," "expects," "plans," "aim," "anticipates," "believes," "estimates," "projects," "predicts," "intends," "think," "strategy," "potential," "objectives," "optimistic," "new," "goal" and similar expressions intended to identify forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in detail under the heading "Item 1A. Risk Factors" beginning on page 10 of this Annual Report on Form 10-K. You should carefully review all of these factors, as well as other risks described in our public filings, and you should be aware that there may be other factors, including factors of which we are not currently aware, that could cause these differences. Also, these forward-looking statements represent our estimates and assumptions only as of the date of this report. We may not update these forward-looking statements, even though our situation may change in the future, unless we have obligations under the federal securities laws to update and disclose material developments related to previously disclosed information. Harvard Bioscience, Inc. is referred to herein as "we," "our," "us," and "the Company."

PART I

Item 1. *Business.*

Overview

Harvard Bioscience, Inc., a Delaware corporation, is a global developer, manufacturer and marketer of a broad range of scientific instruments, systems and lab consumables used to advance life science for basic research, drug discovery, clinical and environmental testing. Our products are sold to thousands of researchers in over 100 countries through our global sales organization, websites, catalogs, and through distributors including Thermo Fisher Scientific Inc., VWR, GE Healthcare, and other specialized distributors. We have sales and manufacturing operations in the United States, the United Kingdom, Germany, Sweden, Spain, France, Canada, and China.

Our History

Our business began in 1901 under the name Harvard Apparatus. It was founded by Dr. William T. Porter, a Professor of Physiology at Harvard Medical School and a pioneer of physiology education. The Company has grown over the years with the development and evolution of modern life science research and education. Our early inventions included ventilators based on Dr. Porter's design, the mechanical syringe pump for drug infusion in the 1950s, and the microprocessor controlled syringe pump in the 1980s.

In March 1996, a group of investors acquired a majority of the then existing business of our predecessor, Harvard Apparatus. Following this acquisition, the focus of our Company was redirected to participate in the higher growth areas within the life science industry by acquiring innovative technologies while continuing to grow the existing business through internal product development. Since 1996, we have completed more than 25 business or product line acquisitions related to our continuing operations, including three acquisitions beginning in the fourth quarter of 2014. We have also developed many new product lines including: new generation Harvard Apparatus syringe pumps, PHD Ultra series of syringe pumps, advanced Inspira ventilators, GeneQuant DNA/RNA/protein calculators, UVM plate readers, BTX Gemini X2 multi-waveform electroporation system, BioDrop micro-volume spectrophotometer and cuvette, and OxyletPro metabolic monitoring system.

From 2009 through November 1, 2013, Harvard Bioscience's operations included two main businesses, the Life Science Research Tools business and the Regenerative Medicine Device ("RMD") business. In 2013, we consummated the spin-off of Harvard Apparatus Regenerative Technology, Inc. ("HART"), the entity which operated our RMD business, to our existing shareholders by means of a distribution of stock we owned in HART.

In August 2013, Jeffrey A. Duchemin was hired by the Board of Directors and became the new President and CEO of our Company to replace departing founder, President and interim CEO, David Green. Other key new hires during 2013 and thereafter included Robert Gagnon as Chief Financial Officer, Yong Sun as Vice President, Global Strategic Marketing, R&D and Business Development, Yoav Sibony as Vice President, Global Sales; and Ron Aplin, as Vice President, Global Operations and Quality. 2014 was the first full fiscal year that the new management team led our Company. Additionally, in February 2015, we appointed Ryan Atienza to Vice President of Sales at our Denville Scientific subsidiary.

At the end of 2013 we began a multiple year restructuring program to reduce costs, align global functions, consolidate facilities, and reinvest in key areas such as sales and IT. As part of the reinvestment, we initiated a plan in 2014 to invest in and implement a new global enterprise resource planning ("ERP") platform. Additionally, during 2014, as part of the restructuring program, we initiated plans to relocate and consolidate the distribution, finance and marketing operations of our Denville Scientific, Inc. ("Denville Scientific") facility and manufacturing operations of our Biochrom Ltd. ("Biochrom") facility. We believe the restructuring program positions the Company to stabilize, focus on, and grow the life science business.

During the fourth quarter 2014, we acquired two businesses with advanced electrophysiology technologies, Multi Channel Systems MCS GmbH ("MCS"), and Triangle BioSystems, Inc. ("TBSI"). In addition, we acquired HEKA Elektronik, a biomedical instrumentation and software business with headquarters in Germany ("HEKA") in January 2015. We believe these acquisitions will add approximately $12 million annual revenues and be accretive to earnings per share. MCS is a developer, manufacturer and marketer of in vitro and in vivo electrophysiology instrumentation for extracellular recording and stimulation. This acquisition is complementary to the in vitro electrophysiology line currently offered by our wholly-owned Warner Instruments subsidiary. TBSI is a developer, manufacturer and marketer of wireless neural interface equipment to aid in vivo neuroscience research, especially in the fields of electrophysiology, psychology, neurology and pharmacology. This acquisition is complementary to the behavioral neuroscience lines currently offered by our wholly-owned Panlab and Coulbourn subsidiaries.

Our Strategy

Our vision is to be a world leading life science company that excels in meeting the needs of our customers by providing a wide breath of innovative products and solutions, while providing exemplary customer service.

Our business strategy is to have a broad range of highly specialized products that have strong positions in targeted market segments within the life science industry.

We believe that:

- having a broad and high quality product offering reduces the risk of being dependent on a single technology;
- having relatively inexpensive products including instruments, systems, and consumables reduces the volatility associated with expensive capital equipment;
- providing strong technical and application service helps customers solve their problems and provides additional value to the customer in their research; and
- having a global sales, marketing and distribution team reaches directly to customers and builds strong relationships with them.

We seek to grow this range of products through a combination of organic growth driven by internal development of new products, direct marketing, global sales and distribution channel expansion, and the acquisition of products. We use acquisitions to expand our product offerings because we believe we can use our well-established brands and distribution channels to accelerate the growth of these acquired products. Our operational strategy aims to continuously improve our operational efficiency across the Company, including the newly acquired companies, therefore contributing to profit improvement.

Our Products

Today, our broad core product range is organized into five product families: Fluidics, Lab Equipment and Supplies, Molecular Analysis, Cell Physiology, and Animal Physiology. We primarily sell these products under brand names, including Harvard Apparatus, KD Scientific, Denville Scientific, AHN, Hoefer, Biochrom, BTX, Warner Instruments, MCS, HEKA, Hugo Sachs Elektronik, Panlab, Coulbourn Instruments, TBSI, and CMA Microdialysis.

Our products consist of instruments, consumables, and systems that are made up of several individual products. Sales prices of these products are mostly under $5,000 but range from under $100 to over $100,000. We manufacture our products at our locations in the United States, the United Kingdom, Germany, Sweden and Spain.

In addition to our proprietary manufactured products, we sell many products that are made by other manufacturers. These distributed products accounted for approximately 35% of our revenues for the year ended December 31, 2014. Distributed products enable us to provide our customers with a single source for their research needs, and consist of a large variety of devices, instruments and consumable items used in experiments involving fluid handling, molecular and cell biology, tissue, organ and animal research. Many of our proprietary manufactured products are leaders in their fields; however, researchers often need complementary products in order to conduct particular experiments. Following is a description of each product family.

Fluidics Product Family

Our Fluidics product family includes our traditional syringe pump and peristaltic pump product lines. The products are used in many life science and industrial applications that require accurately controlled fluid dispensing, including infusion, perfusion, cellular microinjection, microfluidics, mass spectrometry calibration, electrospinning and microdialysis. The primary brands are Harvard Apparatus, Harvard Pumps, and KD Scientific. We also offer an expanded line of component pumping modules and original equipment manufacturing ("OEM") for specialized system development.

Lab Products and Supplies Product Family

Our Lab Equipment and Supplies product family includes a range of products for molecular biology labs with a liquid handling focus. It consists primarily of pipettes and pipette tips, gloves, gel electrophoresis equipment and reagents, autoradiography films, thermal cycler accessories and reagents, sample preparation columns, tissue culture products, and general lab equipment and consumables. Our brands include Denville Scientific, AHN, and others. We sell these products through our global sales force and distribution channel.

Molecular Analysis Product Family

The Molecular Analysis product family includes spectrophotometers, microplate readers, amino acid analyzers, gel electrophoresis equipment, and electroporation instruments. A spectrophotometer is an instrument widely used in molecular biology and cell biology to quantify the amount of DNA and protein in a sample. We sell a wide range of spectrophotometers under the names Libra, WPA and BioDrop. We sell them primarily through our distribution arrangements with GE Healthcare and other distributors. Multi-well plate readers are widely used for high throughput screening assays in the drug discovery process. Our product line includes absorbance readers and luminescence readers. We sell them primarily through our global distribution channel. An amino acid analysis system uses chromatography to separate the amino acids in a sample and then uses a chemical reaction to detect each one as they flow out of the chromatography column. We sell these systems under the Biochrom brand through our U.S. direct sales force and global distribution channel. Gel electrophoresis is widely used in labs to separate and analyze DNA, RNA and proteins samples and their fragments, based on their size and charge. We sell our electrophoresis equipment under Hoefer and Scie-Plas brands through our global distribution channel. Electroporation is a technique for transfection, a process to introduce nucleic acid into cells. Our electroporation and electrofusion products include systems and generators, electrodes and accessories for research applications including in vivo, in ovo and in vitro gene delivery, cell fusion and nuclear transfer cloning. We sell these products under the Harvard Apparatus BTX brand through our global distribution channel.

Cell Physiology Product Family

The Cell Physiology product family consists of our electrophysiology products, which includes new product lines from our acquisitions of TBSI and MCS in the fourth quarter 2014 and of HEKA in January 2015.

Electrophysiology is the study of the electrical properties of biological cells and tissues. It involves measurements of voltage or electric current change on a wide variety of scales from single ion channel proteins on a cell membrane to tissue slices to whole organs. Our electrophysiology products include equipment for patch clamp systems, amplifiers, data acquisition systems, bilayer workstations, temperature controllers, infusion chambers and accessories for imaging and recording, and multi-electrode arrays ("MEAs"). We sell these products under the Warner Instrument, MCS, and HEKA brands and through our global sales force and distribution channel.

Animal Physiology Product Family

The Animal Physiology product family includes a broad range of instruments and accessories for tissue, organ and animal based lab research, including surgical products, infusion systems, microdialysis instruments, behavior research systems, isolated organ and tissue bath systems, bioreactors for regenerative medicine research, and in vivo electrophysiology recording and stimulation systems.

Surgical products include surgical equipment and instruments, anesthesia systems, ventilators, vital sign monitoring systems, infusion systems and accessories. Microdialysis instruments and probes are used to collect tissue fluids for analysis. Infusion systems are generally used for the testing of drug candidates or toxins, and syringe pumps are used to accurately infuse very small quantities of liquid containing chemicals of research interest, and to collect samples from animal tissues. Behavioral research systems are used in neuroscience, cardiology, psychological and respiratory metabolic studies to evaluate the effects of situational stimuli, drugs and nutritional infusions on motor and sensory, activity and learning and test behavior. Isolated organ perfusion systems and tissue baths are used to study organ and tissue functions, and the effect of drug candidates and other chemicals on experimental models. In vivo electrophysiology systems are used to stimulate and record signals from neuronal, cardiac, and other cells. Our animal physiology product offerings are marketed through our Harvard Apparatus, CMA Microdialysis, Panlab, Coulbourn, Hugo-Sachs, InBreath Bioreactor, MCS and TBSI brands and entities. We sell these products through our global sales force, technical service team and our global distribution channel.

Our Customers

Our end-user customers are primarily research scientists at universities, hospitals, government laboratories, including the U.S. National Institute of Health (NIH), and pharmaceutical and biotechnology companies. Our academic customers include major colleges and universities such as Harvard University, Cambridge University, Johns Hopkins University, Massachusetts Institute of Technology, Yale University, the University of California system, Baylor College of Medicine, and the University of Texas - MD Anderson Center. Our pharmaceutical and biotechnology customers have included pharmaceutical companies and research laboratories such as Amgen, Inc., AstraZeneca plc, Genentech, Inc. and Johnson & Johnson. We have tens of thousands of customers worldwide and no customer accounted for more than 10% of our revenues in 2014.

Sales and Marketing

We conduct direct sales in the United States, the United Kingdom, Germany, France, Spain, Sweden, Canada and China. We sell primarily through distributors in other countries. For the year ended December 31, 2014, revenues from direct sales to end-users represented approximately 58% of our revenues; and revenues from sales of our products through distributors represented approximately 42% of our revenues.

Direct Sales

We have a global sales organization managing both direct sales and distributors. Our websites and catalogs serve as the primary sales tool for the Harvard Apparatus, Denville and other product lines, which includes both proprietary manufactured products and complementary products from various suppliers. Our reputation as a leading producer of many of our manufactured products creates traffic to our websites, enables cross-selling and facilitates the introduction of new products.

Distributors

We engage distributors for the sales of our own branded and private label products in certain areas of the world and for certain product lines.

Research and Development

Our principal research and development mission is to develop products that address growth opportunities within the life science research process, as well as to maintain and optimize our existing product portfolios. We maintain development staff in many of our manufacturing facilities to design and develop new products and to re-engineer existing products to bring them to the next generation. Our research and development expenses from continuing operations were approximately $4.9 million, $4.2 million and $4.3 million for the years ended December 31, 2014, 2013 and 2012, respectively. In addition, we funded the research and development expenses of our RMD business which were approximately $3.1 million and $2.9 million for the years ended December 31, 2013 and 2012, respectively. The RMD research and development expenses were classified as part of discontinued operations for all periods presented. We anticipate that we will continue to make investments in research and development activities as we deem appropriate. We plan to continue to pursue a balanced development portfolio strategy of originating new products from internal research and acquiring products through business and technology acquisitions.

Manufacturing

We manufacture and test the majority of our products in our principal manufacturing facilities located in the United States, the United Kingdom, Sweden, Spain and Germany. We have considerable manufacturing flexibility at our various facilities, and each facility can manufacture multiple products at the same time. We maintain in-house manufacturing expertise, technologies and resources. We seek to maintain multiple suppliers for key components that are not manufactured in-house, and while some of our products are dependent on sole-source suppliers, we do not believe our dependence upon these suppliers creates any significant risks.

Our manufacturing operations primarily involve assembly and testing activities along with some machine based processes. We manufacture syringe pumps, ventilators, cell injectors, molecular sample preparation products and electroporation products in Holliston, Massachusetts. The manufacture of our cell electrophysiology products takes place in both our Holliston, Massachusetts facility and our Hamden, Connecticut facility. We manufacture spectrophotometers, amino acid analysis systems, low-volume, high-throughput liquid dispensers and our plate readers in our Cambridge, England facility. We manufacture our complete organ testing systems and bioreactors in our March-Hugstetten, Germany and Holliston, Massachusetts facilities. Our electrophoresis products are manufactured in our Richmond, California facility. Behavioral research products are manufactured in our Barcelona, Spain and Whitehall, Pennsylvania facilities. Our microdialysis products are manufactured in our Holliston, Massachusetts and Kista, Sweden facilities. We manufacture our fluid handling products in our Nordhausen, Germany facility. With recent acquisitions, we gained manufacturing sites for electrophysiology products in Reutlingen and Lambrecht/Pfalz Germany, Chester, Nova Scotia, Canada, Durham, North Carolina, and Bellmore, New York.

During the fourth quarter of 2014, we initiated plans to relocate our Denville distribution business from New Jersey to North Carolina and consolidate our Cambridge, England manufacturing operations with our Holliston, Massachusetts facility. Going forward we will continue to evaluate our manufacturing facilities and operations in order to maintain an optimal manufacturing footprint.

Competition

The markets into which we sell our products are highly competitive, and we expect the intensity of competition to continue or increase. We compete with many companies engaged in developing and selling tools for life science research. Many of our competitors have greater financial, operational, sales and marketing resources, and more experience in research and development and commercialization than we have. Moreover, our competitors may have greater name recognition than we do, and many offer discounts as a competitive tactic. These competitors and other companies may have developed or could in the future develop new technologies that compete with our products, which could render our products obsolete. We cannot assure you that we will be able to make the enhancements to our technologies necessary to compete successfully with newly emerging technologies. We believe that we offer one of the broadest selections of products to organizations engaged in life science research. We have numerous competitors on a product line basis. We believe that we compete favorably with our competitors on the basis of product performance, including quality, reliability and speed, technical support, price and delivery time.

We compete with several companies that provide instruments for life science research including, Lonza Group Ltd., Becton Dickinson, Eppendorf AG, Kent Scientific Corporation, Razel Scientific Instruments, Inc., Ugo Basile, Danaher Corporation, Bio-Rad Laboratories, Inc., PerkinElmer, Inc. and Thermo Fisher Scientific, Inc.

Many of our competitors have substantially greater financial, technological, research and development, marketing, and personnel resources than we do. We cannot forecast if or when these or other companies may develop competitive products. We expect that other products will compete with our products and potential products based on efficacy, safety, cost and intellectual property positions. While we believe that these will be the primary competitive factors, other factors include, in certain instances, availability of supply, manufacturing, marketing and sales expertise and capability.

Seasonality

Our business is generally not seasonal, however, sales and earnings in our third quarter are usually flat or down from the second quarter primarily because there are a large number of holidays and vacations during such quarter, especially in Europe. Our fourth quarter revenues and earnings are often the highest in any fiscal year compared to the other three quarters, primarily because many of our customers tend to spend budgeted money before their own fiscal year ends.

Intellectual Property

To establish and protect our proprietary technologies and products, we rely on a combination of patent, copyright, trademark and trade-secret laws, as well as confidentiality provisions in our contracts. Patents or patent applications cover certain of our new technologies. Most of our more mature product lines are protected by trade names and trade secrets only.

We have implemented a patent strategy designed to provide us with freedom to operate and facilitate commercialization of our current and future products. Our success depends, to a significant degree, upon our ability to develop proprietary products and technologies. We intend to continue to file patent applications as we develop new products and technologies.

Patents provide some degree of protection for our intellectual property. However, the assertion of patent protection involves complex legal and factual determinations and is therefore uncertain. The scope of any of our issued patents may not be sufficiently broad to offer meaningful protection. In addition, our issued patents or patents licensed to us may be successfully challenged, invalidated, circumvented or unenforceable so that our patent rights would not create an effective competitive barrier. Moreover, the laws of some foreign countries may protect our proprietary rights to a greater or lesser extent than the laws of the United States. In addition, the laws governing patentability and the scope of patent coverage continue to evolve, particularly in areas of interest to us. As a result, there can be no assurance that patents will be issued from any of our patent applications or from applications licensed to us. As a result of these factors, our intellectual property positions bear some degree of uncertainty.

We also rely in part on trade-secret protection of our intellectual property. We attempt to protect our trade secrets by entering into confidentiality agreements with third parties, employees and consultants. Our employees and consultants also sign agreements requiring that they assign to us their interests in patents and copyrights arising from their work for us. Although many of our U.S. employees have signed agreements not to compete unfairly with us during their employment and after termination of their employment, through the misuse of confidential information, soliciting employees, soliciting customers and the like, the enforceability of these provisions varies from jurisdiction to jurisdiction and, in some circumstances, they may not be enforceable. In addition, it is possible that these agreements may be breached or invalidated and if so, there may not be an adequate corrective remedy available. Despite the measures we have taken to protect our intellectual property, we cannot assure you that third parties will not independently discover or invent competing technologies, or reverse engineer our trade secrets or other technologies. Therefore, the measures we are taking to protect our proprietary rights may not be adequate.

We do not believe that our products infringe on the intellectual property rights of any third party. We cannot assure you, however, that third parties will not claim such infringement by us or our licensors with respect to current or future products. We expect that product developers in our market will increasingly be subject to such claims as the number of products and competitors in our market segment grows and the product functionality in different market segments overlaps. In addition, patents on production and business methods are becoming more common and we expect that more patents will be issued in our technical field. Any such claims, with or without merit, could be time-consuming, result in costly litigation and diversion of management's attention and resources, cause product shipment delays or require us to enter into royalty or licensing agreements. Moreover, such royalty or licensing agreements, if required, may not be on terms advantageous to us, or acceptable at all, which could seriously harm our business or financial condition.

"Harvard" is a registered trademark of Harvard University. The marks "Harvard Apparatus" and "Harvard Bioscience" are being used pursuant to a license agreement entered into in December 2002 between us and Harvard University.

Government Regulation

We are not subject to direct governmental regulation other than the laws and regulations generally applicable to businesses in the domestic and foreign jurisdictions in which we operate. In particular, our current products are not subject to pre-market approval by the U.S. Food and Drug Administration ("FDA") for use on human clinical patients. In addition, we believe we are currently in compliance with all relevant environmental laws.

Employees

As of December 31, 2014, we employed 447 employees, of which 417 are full-time and 30 are part-time. As of December 31, 2013, we employed 368 employees, of which 345 were full-time and 23 were part-time. The increase in the number of employees was primarily due to the acquisitions of MCS and TBSI during 2014.

Geographical residence information for these employees is summarized in the table below:

	As of December 31, 2014
United States	222
United Kingdom	70
Germany	107
Spain	28
Sweden	7
Canada	7
France	2
China	4
Total	447

Following the acquisition of HEKA, we employed an additional 26 employees between Germany, Canada and the United States.

We believe that our relationship with our employees is good. None of our employees are subject to any collective bargaining agreement.

Discontinued Operations

In September 2008, we completed the sale of assets of our Union Biometrica Division ("UBI") including our German subsidiary, Union Biometrica GmbH, representing the remaining portion of our Capital Equipment Business Segment, to UBIO Acquisition Company. The purchase price paid by UBIO Acquisition Company under the terms of the asset purchase agreement consisted of $1 in cash, the assumption of certain liabilities, plus additional consideration in the form of an earn-out based on the revenues generated by the acquired business as it was conducted by UBIO Acquisition Company over a five-year post-transaction period in an amount equal to (i) 5% of the revenues generated up to and including $6.0 million each year and (ii) 8% of the revenues generated above $6.0 million each year. Any earn-out amounts were evidenced by interest-bearing promissory notes due on September 30, 2013, or at an earlier date based on certain triggering events. During 2013, UBIO Acquisition Company made payments, including interest, of $1.8 million. UBIO Acquisition Company's final payment under the earn-out obligation was received in October 2013.

On November 1, 2013, the previously announced spin-off of HART from our Company was completed. Through the spin-off date the historical operations of HART were reported as continuing operations in our consolidated statements of operations. Following the spin-off, and reported herein, the historical operations of HART were broken out and reported as discontinued operations for all periods presented. HART became an independent company that operates the regenerative medicine business previously owned by us. The spin-off was completed through the distribution to Harvard Bioscience's stockholders of record all the shares of common stock of HART (the "Distribution"). In the Distribution, we distributed to our stockholders one share of HART common stock for every four shares of Harvard Bioscience common stock outstanding as of the close of business on October 21, 2013, the record date for the Distribution. Fractional shares of HART common stock were not included in the distribution. Instead, Registrar & Transfer Company aggregated fractional shares into whole shares, sold the whole shares in the open market and distributed the aggregate net cash proceeds of the sales pro rata to each holder who otherwise would have been entitled to receive a fractional share in the Distribution.

Effective with the spin-off, we contributed $15.0 million in cash to HART to fund its operations. In addition, we transferred approximately $0.9 million in net assets to HART as part of the spin-off.

In connection with the spin-off of HART, certain required adjustments were made to our outstanding equity compensation awards under our employee benefit plans. Each outstanding option to purchase Harvard Bioscience common stock was converted on the date of the Distribution into both an adjusted Harvard Bioscience option to purchase Harvard Bioscience common stock and an option to purchase HART common stock. Black-Scholes valuation modeling was used to determine the value that each Harvard Bioscience option had lost at the time of the Distribution and to ensure the holder maintained such lost value, 80% of such lost value was provided back to the holder by making appropriate adjustments to the share amount and exercise price of the existing Harvard Bioscience option and 20% of such lost value was provided back to the holder through the issuance of an option to purchase HART common stock. Similar to the adjustment of the existing Harvard Bioscience options, with respect to each unvested Harvard Bioscience restricted stock unit outstanding at the time of the Distribution, such Harvard Bioscience restricted stock unit was converted on the date of the Distribution into both an adjusted Harvard Bioscience restricted

stock unit and a HART restricted stock unit. The market prices of Harvard Bioscience and HART common stock were used to determine the value that each Harvard Bioscience restricted stock unit lost at the time of the Distribution and then to ensure the holder maintained such lost value, 80% of such lost value was provided back to the holder by making an appropriate increase of the share amount of the existing Harvard Bioscience restricted stock unit and 20% of such lost value was provided back to the holder through the issuance of a HART restricted stock unit. The share amounts and exercise prices of the adjusted Harvard Bioscience options and HART options, as well as the share amounts of the adjusted Harvard Bioscience restricted stock units and HART restricted stock units, were each adjusted and set in a manner to ensure the intrinsic value held by the holder pertaining to the existing Harvard Bioscience award was maintained immediately following the Distribution and was determined such that tax was not triggered under Section 409A of the Internal Revenue Code. As part of these required adjustments, we issued an approximately 1.7 million options and approximately 0.1 million restricted stock units to holders of our outstanding equity compensation awards.

In connection with the spin-off, on October 31, 2013, the Company entered into various commercial agreements with HART which contain many of the key provisions related to the Distribution. These agreements include: (i) a Separation and Distribution Agreement; (ii) an Intellectual Property Matters Agreement; (iii) a Product Distribution Agreement; (iv) a Tax Sharing Agreement; (v) a Transition Services Agreement; and (vi) a Sublease.

We intend for the HART contribution and Distribution, taken together, to qualify as a reorganization pursuant to which no gain or loss is recognized by us or our stockholders for federal income tax purposes under Sections 355, 368(a)(1)(D) and related provisions of the Internal Revenue Code. On June 28, 2013, we received a Supplemental Ruling to the Private Letter Ruling dated March 22, 2013 from the IRS to the effect that, among other things, the spin-off will qualify as a transaction that is tax-free for U.S. federal income tax purposes under Section 355 and 368(a)(1)(D) of the Internal Revenue Code continuing in effect. We also have received an opinion from our outside tax advisor to such effect. In connection with the ruling and the opinion, we made certain representations regarding ourselves and our business. We have agreed that we will not take or fail to take any action which prevents or could reasonably be expected to prevent the tax-free status of the spin-off. HART has agreed to certain restrictions that are intended to preserve the tax-free status of the contribution and the Distribution. HART may take certain actions otherwise prohibited by these covenants if we receive a private letter ruling from the IRS or if HART obtains, and provides to us, an opinion from a U.S. tax counsel or accountant of recognized national standing, in either case, acceptable to us in our sole and absolute discretion to the effect that such action would not jeopardize the tax-free status of the contribution and the Distribution. These covenants include restrictions on HART's:

- issuance or sale of stock or other securities (including securities convertible into HART's stock but excluding certain compensatory arrangements);

- sales of assets outside the ordinary course of business; and

- entering into any other corporate transaction which would cause HART to undergo a 50% or greater change in HART's stock ownership.

In addition, current U.S. federal income tax law creates a presumption that our spin-off of HART would be taxable to us, but not our stockholders, if such spin-off is part of a "plan or series of related transactions" pursuant to which one or more persons acquire directly or indirectly stock representing a 50% or greater interest (by vote or value) in us or HART. Acquisitions that occur during the four-year period that begins two years before the date of the spin-off are presumed to occur pursuant to a plan or series of related transactions, unless it is established that the acquisition is not pursuant to a plan or series of transactions that includes the spin-off. U.S. Treasury regulations currently in effect generally provide that whether an acquisition and a spin-off are part of a plan is determined based on all of the facts and circumstances, including, but not limited to, specific factors described in the U.S. Treasury regulations. In addition, the U.S. Treasury regulations provide several "safe harbors" for acquisitions that are not considered to be part of a plan. These rules will limit our ability during the two-year period following the spin-off to enter into certain transactions that may be advantageous to us and our stockholders, particularly issuing equity securities to satisfy financing needs, repurchasing equity securities, disposing of certain assets, engaging in mergers and acquisitions, and, under certain circumstances, acquiring businesses or assets with equity securities or agreeing to be acquired.

Geographic Area

Financial information regarding geographic areas in which we operate is provided in Note 21 of the "Notes to Consolidated Financial Statements," which are included elsewhere in this report.

Executive Officers of the Registrant

The following table shows information about our executive officers as of December 31, 2014.

Name	Age	Position
Jeffrey Duchemin	49	Chief Executive Officer, President and Director
Robert Gagnon	40	Chief Financial Officer
Yong Sun	51	Vice President, Strategic Marketing and Business Development
Yoav Sibony	43	Vice President, Global Sales

Jeffrey A. Duchemin was appointed Chief Executive Officer on August 26, 2013. He assumed the additional roles of President on November 1, 2013 and Director on October 29, 2013. Prior to joining Harvard Bioscience, Mr. Duchemin spent 16 years with Becton Dickinson ("BD") in progressive sales, marketing and executive leadership positions across BD's three business segments; BD Medical Systems, BD Diagnostic Systems, and BD Biosciences. In October 2012, BD Biosciences Discovery Labware was acquired by Corning Life Sciences. Mr. Duchemin was a Global Business Director for Corning Life Sciences until his recent departure to Harvard Bioscience. Mr. Duchemin is a transformational leader with demonstrated business results. The depth of his experience spans across a broad range of life science research and medical device products resulting in growth on a global basis. Mr. Duchemin earned an M.B.A. from Southern New Hampshire University and a B.S. in accounting from the University of Massachusetts Dartmouth.

Robert E. Gagnon was appointed Chief Financial Officer on November 1, 2013. Prior to joining the company he was recently Executive Vice President, Chief Financial Officer and Treasurer at Clean Harbors, Inc. (NYSE:CLH), a leading provider of environmental, energy and industrial services throughout North America. Prior to this, he served in progressive executive positions at Biogen Idec, Inc., a Fortune 500 company developing treatments in the areas of immunology and neurology. Earlier, he worked in a variety of senior positions at Deloitte & Touche, LLP, and PricewaterhouseCoopers, LLP. Mr. Gagnon is a certified public accountant who holds an M.B.A. from the MIT Sloan School of Management and a B.A. in accounting from Bentley College.

Yong Sun was appointed Vice President Strategic Marketing and Business Development on October 28, 2013. He assumed the additional role of Vice President R&D on March 10, 2014. Prior to joining Harvard Bioscience, he served as Vice President of Global Marketing and Americas Sales at Beaver-Visitec International, a company combining former ophthalmic business units from BD and Medtronic; in this role he led global marketing to develop and implement strategic marketing plans in target surgical markets. Prior to this, he served in progressive positions at BD, including Director of Global Marketing & U.S. Sales. Earlier, he served as Marketing Manager, Global Life Sciences Market & Greater China Region at Eli Lilly & Company's eLilly Unit (now InnoCentive, Inc.). Mr. Sun, holds an M.B.A. from the MIT Sloan School of Management, a M.S. in environmental science & engineering from Northeastern University and a B.S. in biochemistry from Peking University.

Yoav Sibony was appointed Vice President of Global Sales on October 21, 2013. Prior to joining Harvard Bioscience, Mr. Sibony served as Global Sales Effectiveness Manager at Corning Life Sciences, a division of Corning Inc. In this role, he oversaw global business operations and strategy development for this approximately $800 million division. Prior to this, from 2002 to 2012, he served in progressive positions at BD; as Regional Business Manager at BD Biosciences Discovery Labware, he oversaw 12 sales territories with combined value of $45 million. Mr. Sibony holds an M.B.A. from Pacific Lutheran University and earned a bachelor of business administration degree from Baruch College-City University of New York.

Available Information and Website

Our website address is www.harvardbioscience.com. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and exhibits and amendments to those reports filed or furnished with the Securities and Exchange Commission pursuant to Section 13(a) of the Exchange Act are available for review on our website and the Securities and Exchange Commission's website at www.sec.gov. Any such materials that we file with, or furnish to, the SEC in the future will be available on our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The information on our website is not incorporated by reference into this Annual Report on Form 10-K.

Item 1A. ***Risk Factors.***

The following factors should be reviewed carefully, in conjunction with the other information contained in this Annual Report on Form 10-K. As previously discussed, our actual results could differ materially from our forward-looking statements. Our business faces a variety of risks. These risks include those described below and may include additional risks and uncertainties not presently known to us or that we currently deem immaterial. If any of the events or circumstances described in the following risk factors occur our business operations, performance and financial condition could be adversely affected and the trading price of our common stock could decline.

Sustained uncertainty concerning government spending and adverse changes in general economic conditions may continue to adversely affect our business.

Many of our customers representing a significant portion of our revenues are universities, government research laboratories, private foundations and other institutions who are dependent for their funding upon grants from U.S. government agencies, such as the U.S. National Institutes of Health ("NIH"), and agencies in other countries. Research and development spending of our customers can fluctuate based on spending priorities and general economic conditions. The level of government funding of research and development is unpredictable. There have been instances where NIH grants have been frozen or otherwise unavailable for extended periods. Any potential delay or decrease in the level of governmental spending allocated to scientific and medical research could substantially reduce or even eliminate these grants causing our customers to delay or forego purchases of our products. If government funding necessary to purchase our products were to decrease, our business and results of operations could be materially adversely affected. Spending by some of these customers fluctuates based on budget allocations and the timely passage of the annual federal budget. An impasse in federal government budget decisions could lead to substantial delays or reductions in federal spending.

As our business has grown, we have become increasingly subject to the risks arising from adverse changes in domestic and global economic conditions. Continued concerns about credit markets, consumer confidence, economic conditions, government spending to sponsor life science research, volatile corporate profits and reduced capital spending could continue to negatively impact demand for our products. If economic growth in the U.S. and other countries continues to be slow and does not improve, customers may delay purchases of our products. The tightening of credit in financial markets may adversely affect the ability of our customers and suppliers to obtain financing, which could result in a decrease in, or deferrals or cancellations of, the sale of our products. If global economic and market conditions, or economic conditions in the United States, deteriorate, we may experience a material adverse effect on our business, operating results and financial condition. Unstable economic, political and social conditions make it difficult for our customers, our suppliers and us to accurately forecast and plan future business activities. If such conditions exist, our business, financial condition and results of operations could suffer. We cannot project the extent of the impact of the economic environment on our industry or us.

A portion of our revenues are derived from customers from the pharmaceutical and biotechnology industries and are subject to risks faced by those industries. Such risks may adversely affect our financial results.

We derive a portion of our revenues from pharmaceutical and biotechnology companies. We expect that pharmaceutical and biotechnology companies will continue to be a significant source of our revenues for the foreseeable future. As a result, we are subject to risks and uncertainties that affect the pharmaceutical and biotechnology industries, such as government regulation, ongoing consolidation, uncertainty of technological change, and reductions and delays in research and development expenditures by companies in these industries.

In particular, the biotechnology industry is largely dependent on raising capital to fund its operations. If biotechnology companies that are our customers are unable to obtain the financing necessary to purchase our products, our business and results of operations could be materially adversely affected. In addition, we are dependent, both directly and indirectly, upon general health care spending patterns, particularly in the research and development budgets of the pharmaceutical and biotechnology industries, as well as upon the financial condition and purchasing patterns of various governments and government agencies. As it relates to both the biotechnology and pharmaceutical industries, many companies have significant patents that have expired or are about to expire, which could result in reduced revenues for those companies. If pharmaceutical or biotechnology companies that are our customers suffer reduced revenues as a result of these patent expirations, they may be unable to purchase our products, and our business and results of operations could be materially adversely affected.

In addition, the pharmaceutical and biotechnology industries have experienced a significant amount of consolidation. As a result of this consolidation, competition to provide life science research tools has increased which could result in additional pressure on the prices of our products.

Our business is subject to economic, political and other risks associated with international revenues and operations.

We manufacture and sell our products worldwide and as a result, our business is subject to risks associated with doing business internationally. Our revenues from our non-U.S. operations represented approximately 41% of total revenues for 2014. We anticipate that revenue from international operations will continue to represent a substantial portion of our revenues in the foreseeable future and is likely to increase as a result of our efforts to expand our business in markets abroad. In addition, a number of our manufacturing facilities and suppliers are located outside the United States. Accordingly, our future results could be harmed by a variety of factors, including:

- the impact of recessions and other economic conditions in economies outside the United States,
- inability to effectively expand our business and operations in international markets,
- disruptions of capital and trading markets,
- inability to collect accounts receivable,
- limitations on repatriations of funds, as well as our inability to utilize overseas cash balances to fund U.S. based operations, obligations and strategic acquisitions in a cost-effective manner, or at all,
- potentially negative consequences from changes in tax laws affecting the ability to or cost of repatriating profits,
- difficulty in staffing and managing widespread operations, unfavorable labor regulations applicable to European operations, such as severance and the unenforceability of non-competition agreements in the European Union,
- other factors beyond our control, including terrorism, political unrest, acts of war, natural disasters and diseases,
- unexpected changes and increased enforcement of regulatory requirements and various state, federal and international, environmental, antitrust, anti-corruption, fraud and abuse (including anti-kickback and false claims laws) and employment laws, and
- interruption to transportation flows for delivery of parts to us and finished goods to our customers.

Specifically with respect to the expansion of our business into China, our financial performance may be subject to the following risks, among others affecting companies that operate in China:

- Regulation of foreign investment and business activities by the Chinese government, including recent scrutiny of foreign companies, may limit our ability to expand our business in China,
- Uncertainties with respect to the legal system in China, may limit the legal protections available to us in China,
- We may be subject to government restrictions on the remittance of currency out of China and the ability of any subsidiary we may establish in China to pay dividends and make other distributions to us,
- We may be subject to unfavorable tax consequences as a result of our operations in China.

Currency exchange rate fluctuations may have a negative impact on our reported earnings.

We are also subject to the risks of fluctuating foreign exchange rates, which could have a materially adverse effect on the sales price of our products in foreign markets, as well as the costs and expenses of our foreign subsidiaries. Approximately 38% of our business during 2014 was conducted in functional currencies other than the U.S. dollar, which is our reporting currency. As a result, currency fluctuations among the U.S. dollar, euro and the other currencies in which we do business have caused and will continue to cause foreign currency translation and transaction gains and losses. We have not used forward exchange contracts to hedge our foreign currency exposures. We attempt to manage foreign currency risk through the matching of assets and liabilities. In the future, we may undertake to manage foreign currency risk through hedging methods, including foreign currency contracts. We recognize foreign currency gains or losses arising from our operations in the period incurred. We cannot guarantee that we will be successful in managing foreign currency risk or in predicting the effects of exchange rate fluctuations upon our future operating results because of the number of currencies involved, the variability of currency exposure and the potential volatility of currency exchange rates. We cannot predict with any certainty changes in foreign currency exchange rates or the degree to which we can address these risks.

Our revenues will likely be affected by various factors, including the timing of purchases by customers and the seasonal nature of purchasing in Europe.

Our revenues will likely be affected by various factors, including the seasonal nature of purchasing in Europe. Our revenues may vary from quarter to quarter due to a number of factors, including new product introductions, the release of grant and budget funding, future acquisitions and our substantial sales to European customers, who in summer months often defer purchases. In particular, delays or reduction in purchase orders from the pharmaceutical and biotechnology industries could have a material adverse effect on us and could adversely affect our stock price.

We plan to expand our business in the near future into foreign countries and international markets. If our products are not accepted in these new markets our financial performance may suffer.

We are undertaking an initiative to aggressively expand our sales and marketing efforts in foreign countries and international markets. The cost and diversion of resources to these efforts may not result in an increase in revenues in our business. Expansion of our business into new markets may be more costly and require the devotion of more of our management's time than we anticipate, which may hurt our business performance in other markets. Our operating results may suffer to the extent that our efforts to expand our products sales in these new markets are delayed or prove to be unsuccessful.

If we are not able to manage our growth, our operating profits or losses may be adversely impacted.

Our success will depend on the expansion of our operations through both organic growth and acquisitions. Effective growth management will place increased demands on our management team, operational and financial resources and expertise. To manage growth, we must expand our facilities, augment our operational, financial and management systems, and hire and train additional qualified personnel. Failure to manage this growth effectively could impair our ability to generate revenue or could cause our expenses to increase more rapidly than revenue, resulting in operating losses or reduced profitability.

We may be unsuccessful in developing new products for existing markets.

Our strategy includes developing new products to drive organic growth in our businesses. We may be unsuccessful developing new products that are received in existing markets. The products we develop may have less market demand than we anticipate or the demand may be at substantially lower prices than we anticipate. Our competitors may develop new products or technologies that diminish demand for our new products. Our customers may receive decreased funding levels, which may cause their demand for our products to decrease. Our efforts to develop new intellectual property and new products may be costly. Failure in our new product development program could have a material impact on our results of operation and our financial condition.

Our competitors and potential competitors may develop products and technologies that are more effective or commercially attractive than our products.

We expect to encounter increased competition from both established and development-stage companies that continually enter the market. We anticipate that these competitors will include:

- companies developing and marketing life science instruments, systems and lab consumables,
- health care companies that manufacture laboratory-based tests and analyzers,
- diagnostic and pharmaceutical companies,
- analytical instrument companies, and
- companies developing life science or drug discovery technologies.

Currently, our principal competition comes from established companies that provide products that perform many of the same functions for which we market our products. Our competitors may develop or market products that are more effective or commercially attractive than our current or future products. Many of our competitors have substantially greater financial, operational, marketing and technical resources than we do. Moreover, these competitors may offer broader product lines and tactical discounts, and may have greater name recognition. In addition, we may face competition from new entrants into the field. We may not have the financial resources, technical expertise or marketing, distribution or support capabilities to compete successfully in the future.

Our products compete in markets that are subject to technological change, and therefore one or more of our products could be made obsolete by new technologies.

Because the market for life science tools is characterized by technological change and frequent new product introductions, our product lines may be made obsolete unless we are able to continually improve existing products and develop new products. To meet the evolving needs of customers, we must continually enhance our current and planned products and develop and introduce new products. However, we may experience difficulties that may delay or prevent the successful development, introduction and marketing of new products or product enhancements. In addition, our product lines are based on complex technologies that are subject to change as new technologies are developed and introduced in the marketplace. We may have difficulty in keeping abreast of the changes affecting each of the different markets we serve or intend to serve. Our failure to develop and introduce products in a timely manner in response to changing technology, market demands or the requirements of our customers could cause our product sales to decline, and we could experience significant losses.

We offer and plan to offer a broad product line and have incurred and expect to continue to incur substantial expenses for development of new products and enhanced versions of our existing products. The speed of technological change in our market may prevent us from being able to successfully market some or all of our products for the length of time required to recover development costs. Failure to recover the development costs of one or more products or product lines could decrease our profitability or cause us to experience significant losses.

Attractive acquisition opportunities may not be available to us in the future.

We will consider the acquisition of other businesses. However, we may not have the opportunity to make suitable acquisitions on favorable terms in the future, which could negatively impact the growth of our business. In order to pursue such opportunities, we may require significant additional financing, which may not be available to us on favorable terms, if at all. We expect that our competitors, many of which have significantly greater resources than we do, will compete with us to acquire compatible businesses. This competition could increase prices for acquisitions that we would likely pursue. In addition, to the extent we acquire any businesses or engage in certain other corporate transactions during the two year period following the spin-off of HART, we intend to structure such transactions in a manner that complies with certain safe harbors provided by the U.S. Treasury regulations, as discussed above. Such structuring requirements may discourage us from entering into certain transactions which we would otherwise pursue.

With respect to acquisitions we have completed or may seek to consummate in the future, we have and will incur a variety of costs, and may never realize the anticipated benefits of the acquisitions due in part to difficulties integrating the businesses, operations and product lines.

Our business strategy includes the acquisition of businesses, technologies, services or products that we believe are a strategic fit with our business. In October 2014, we completed the acquisition of two privately held life science companies: Multi Channel Systems MCS GmbH, a German company with limited liability headquartered in Reutlingen, Germany ("MCS") and Triangle BioSystems, Inc., a Delaware corporation based in Durham, North Carolina ("TBSI"). In January 2015, we completed the acquisition of all of the operations of HEKA Electronik, a privately held biomedical instrumentation and software business with headquarters in Germany ("HEKA"). With respect to these recent acquisitions or if we undertake any future acquisition, the process of integrating the acquired business, technology, service or product may result in unforeseen operating difficulties and expenditures and may absorb significant management attention that would otherwise be available for ongoing development of our business. Moreover, we may fail to realize the anticipated benefits of any acquisition as rapidly as expected or at all. Any such recent or future acquisitions could reduce stockholders' ownership, cause us to incur debt, expose us to future liabilities and result in amortization expenses related to intangible assets with definite lives, which may adversely impact our ability to undertake future acquisitions on substantially similar terms. We may also incur significant expenditures in anticipation of an acquisition that is never realized.

Our ability to achieve the benefits of acquisitions depends in part on the integration and leveraging of technology, operations, sales and marketing channels and personnel. The integration process is a complex, time-consuming and expensive process and may disrupt our business if not completed in a timely and efficient manner.

We may have difficulty successfully integrating acquired businesses, and their domestic and foreign operations or product lines, and as a result, we may not realize any of the anticipated benefits of the acquisitions we make. We cannot assure that our growth rate will equal the growth rates that have been experienced by us and these and other acquired companies, respectively, operating as separate companies in the past.

Customer, vendor and employee uncertainty about the effects of any of our acquisitions could harm us.

We and the customers of any company we acquire, including MCS, TBSI and HEKA and others in the future, may, in response to the consummation of the acquisition, delay or defer purchasing decisions. Any delay or deferral in purchasing decisions by customers could adversely affect our business. Similarly, employees of acquired companies may experience uncertainty about their future role until or after we execute our post-acquisition strategies. This may adversely affect our ability to attract and retain key management, sales, marketing and technical personnel following an acquisition.

We may be the subject of lawsuits from either an acquiring company's stockholders, an acquired company's previous stockholders, a divested company's stockholders or our current stockholders.

We may be the subject of lawsuits from either an acquiring company's stockholders, an acquired company's previous stockholders, a divested company's stockholders or our current stockholders. Such lawsuits could result from the actions of the acquisition or divestiture target prior to the date of the acquisition or divestiture, from the acquisition or divestiture transaction itself or from actions after the acquisition or divestiture. Defending potential lawsuits could cost us significant expense and detract management's attention from the operation of the business. Additionally, these lawsuits could result in the cancellation of or the inability to renew certain insurance coverage that would be necessary to protect our assets.

We will incur additional restructuring costs or not realize the expected benefits of our initiatives to reduce operating expenses to date and in the future.

In 2014, we initiated plans to relocate the distribution and finance operations of Denville Scientific from South Plainfield, NJ to a new leased facility in Charlotte, NC and our headquarters in Holliston, MA, respectively, and to relocate the manufacturing and marketing operations of Biochrom from Cambridge, United Kingdom to our headquarters in Holliston, MA. In addition to these actions, we may seek to further eliminate certain inefficiencies in our corporate structure in the future. We may not be able to implement all of the actions that we intend to take in the restructuring of our operations and we may not be able to fully realize the expected benefits from such realignment and restructuring plans or other similar restructurings in the future. In addition, we may incur additional restructuring costs in implementing such realignment and restructuring plans or other similar future plans in excess of our expectations, and due to such restructuring efforts we may experience disruptions to our ongoing business operations, including manufacturing, distribution, sales and information technology systems, that could adversely impact the ongoing business and our results of operations. The implementation of our restructuring efforts, including the reduction of our workforce, may not improve our operational and cost structure or result in greater efficiency of our organization; and we may not be able to support sustainable revenue growth and profitability following such restructurings.

Failure or inadequacy of our information technology infrastructure or software could adversely affect our day-to-day operations and decision making processes and have an adverse effect on our performance.

We depend on accurate and timely information and numerical data from key software applications to aid our day-to-day business, financial reporting and decision-making and, in many cases, proprietary and custom-designed software is necessary to operate our business. We are upgrading our disaster recovery procedures for our critical systems. However, any disruption caused by the failure of these systems, the underlying equipment, or communication networks, including as a result of our restructuring efforts, could delay or otherwise adversely impact our day-to-day business and decision making, could make it impossible for us to operate critical equipment, and could have a materially adverse effect on our performance, if our disaster recovery plans do not mitigate the disruption. Disruptions could be caused by a variety of factors, such as catastrophic events or weather, power outages, or cyber-attacks on our systems by outside parties.

Any failure by us to protect confidential information of our customers against security breaches, including cyber-security breaches, could damage our reputation and substantially harm our business and results of operations.

Third parties may have the technology or expertise to breach the security of our customer transaction data and our security measures may not prevent physical security or cyber-security breaches, which could result in substantial harm to our business, our reputation and our results of operations. We rely on encryption and/or authentication technology licensed and, at times, administered by third parties to effect secure transmission of confidential information, including credit card numbers. Our outsource agreements with third-party service providers generally require that providers have adequate security systems in place to protect all of our customer transaction data. However, advances in computer capabilities, new discoveries in the field of cryptography or other cyber-security developments could render our security systems and technology or those employed by our third-party service providers vulnerable to a breach. In addition, anyone who is able to circumvent our security measures could misappropriate proprietary information or cause interruptions in our operations. Cyber-security risks such as malicious software and attempts to gain unauthorized access to data are rapidly evolving and could lead to disruptions in our reservation system or

other data systems, unauthorized release of confidential or otherwise protected information or corruption of data. Any successful efforts by individuals to infiltrate, break into, disrupt, damage or otherwise steal from the Company's, its licensees' or its third-party service providers' security or information systems could damage our reputation and brand and expose us to a risk of loss or litigation and possible liability that could substantially harm our business and results of operations.

We may experience difficulties fully implementing our enterprise resource planning systems.

We have been engaged in a project to upgrade our enterprise resource planning ("ERP") systems. Our ERP systems are critical to our ability to accurately maintain books and records, record transactions, provide important information to our management and prepare our financial statements. The implementation of the new ERP systems has required, and will continue to require, the investment of significant financial and human resources. In addition, we may not be able to successfully complete the full implementation of the ERP systems without experiencing difficulties. Any disruptions, delays or deficiencies in the design and implementation of the new ERP systems could adversely affect our ability to process orders, ship products, provide services and customer support, send invoices and track payments, fulfill contractual obligations or otherwise operate our business.

The failure of any banking institution in which we deposit our funds or the failure of such banking institution to provide services could have a material adverse effect on our results of operations, financial condition or access to borrowings.

We deposit our cash and cash equivalents with a number of financial institutions around the world. Should any of these financial institutions fail or otherwise be unable to timely perform requested services, we would likely have a limited ability to quickly access our cash deposited with such institutions. If we are unable to quickly access such funds, we may need to increase our use of our existing credit lines or access more expensive credit, if available. If we are unable to access some or all of our cash on deposit, either temporarily or permanently, or if we access existing or additional credit or are unable to access additional credit, it could have a negative impact on our operations, including our reported net income, our financial position, or both.

We have substantial debt and other financial obligations and we may incur even more debt.

We have substantial debt and other financial obligations and significant unused borrowing capacity. On March 29, 2013, we entered into a Second Amended and Restated Revolving Credit Agreement with Bank of America, as agent, and Bank of America and Brown Brothers Harriman & Co as lenders, as amended on October 31, 2013 (the "Credit Agreement"). As of December 31, 2014, we had borrowings of $21.5 million under the Credit Agreement. The Credit Agreement includes covenants relating to income, debt coverage and cash flow and minimum working capital requirements. The Credit Agreement also contains limitations on our ability to incur additional indebtedness and requires lender approval for acquisitions funded with cash, promissory notes and/or other consideration in excess of $6.0 million and for acquisitions funded solely with equity in excess of $10.0 million. If we are not in compliance with certain of these covenants, in addition to other actions the creditor may require, the amounts drawn on the Credit Agreement may become immediately due and payable. This immediate payment may negatively impact our financial condition.

We have pledged substantially all of our assets (including the assets of our restricted subsidiaries) to secure our indebtedness. Our Credit Agreement and related obligations:

- Require us to dedicate significant cash flow to the payment of principal and interest on our debt, which reduces the funds we have available for other purposes;
- May limit our flexibility in planning for or reacting to changes in our business and market conditions or funding our strategic growth plan;
- Impose on us additional financial and operational restrictions;
- Expose us to interest rate risk since a portion of our debt obligations is at variable rates (which is mitigated to a certain extent, by interest rate hedging transactions we entered into in connection with our Credit Agreement); and
- Restrict our ability to fund certain acquisitions.

In addition, investors may be apprehensive about investing in companies such as ours that carry a substantial amount of leverage on their balance sheets, and this apprehension may adversely affect the price of our common stock.

Failure to comply with the financial covenants, or any other non-financial or restrictive covenant, could create a default under our Credit Agreement. Upon a default, our lenders could accelerate the indebtedness under the Credit Agreement, foreclose against their collateral or seek other remedies, which would jeopardize our ability to continue our current operations. Such other remedies, and our response thereto, may involve a repatriation or use of our foreign cash balances that may be restricted by local laws or could have adverse tax consequences and substantially harm our business and results of operations. We may be required to amend our Credit Agreement, refinance all or part of our existing debt, sell assets, incur additional indebtedness or raise equity. Further, based upon our actual performance levels, our covenants relating to income, debt coverage and cash flow and minimum working capital requirements could limit our ability to incur additional debt, which could hinder our ability to execute our current business strategy.

Our ability to make scheduled payments on our debt and other financial obligations and comply with financial covenants depends on our financial and operating performance. Our financial and operating performance will continue to be subject to prevailing economic conditions and to financial, business and other factors, some of which are beyond our control.

Failure to raise additional capital or generate the significant capital necessary to implement our acquisition strategy, expand our operations and invest in new products could reduce our ability to compete and result in less revenue.

We anticipate that our financial resources, which include available cash, cash generated from operations, and debt and equity capacity, will be sufficient to finance operations and capital expenditures for at least the next twelve months. However, this expectation is premised on the current operating plan, which may change as a result of many factors, including market acceptance of new products and future opportunities with collaborators. Consequently, we may need additional funding sooner than anticipated. In addition, our line of credit may not be sufficient to fund our acquisition strategy. In such case, our inability to raise sufficient capital on favorable terms and in a timely manner (if at all) could seriously harm our business, product development, and acquisition efforts.

If we raise additional funds through the sale of equity or convertible debt or equity-linked securities, existing percentages of ownership in our common stock will be reduced. In addition, these transactions may dilute the value of our outstanding common stock. We may issue securities that have rights, preferences and privileges senior to our common stock. If we raise additional funds through collaborations or licensing arrangements, we may relinquish rights to certain of our technologies or products, or grant licenses to third parties on terms that are unfavorable. In addition, our Credit Agreement contains limitations on our ability to incur additional indebtedness and requires lender approval for acquisitions funded with cash, promissory notes and/or other consideration in excess of $6.0 million and for acquisitions funded solely with equity in excess of $10.0 million. If future financing is not available or is not available on acceptable terms, we may have to alter our operations or change our business strategy. We cannot assure you that the capital required to fund operations or our acquisition strategy will be available in the future.

If our spin-off of Harvard Apparatus Regenerative Technology, Inc., or HART, together with certain related transactions, does not qualify as a transaction that is generally tax-free for U.S. federal income tax purposes, we could be subject to significant tax liability.

On June 28, 2013, we received a Supplemental Ruling to the Private Letter Ruling dated March 22, 2013, from the IRS to the effect that, among other things, the spin-off of HART will qualify as a transaction that is tax-free for U.S. federal income tax purposes under Section 355 and 368(a)(1)(D) of the Internal Revenue Code continuing in effect. The private letter and supplemental rulings and the tax opinion that we received from Burns & Levinson LLP, special counsel to Harvard Bioscience, Inc. rely on certain representations, assumptions and undertakings, including those relating to the past and future conduct of our business and HART's business, and neither the private letter and supplemental rulings nor the opinion would be valid if such representations, assumptions and undertakings were incorrect. Moreover, the private letter and supplemental rulings do not address all the issues that are relevant to determining whether the spin-off distribution will qualify for tax-free treatment. Notwithstanding the private letter and supplemental rulings and opinion, the IRS could determine the spin-off distribution should be treated as a taxable transaction for U.S. federal income tax purposes if, among other reasons, it determines any of the representations, assumptions or undertakings that were included in the request for the private letter and supplemental rulings are false or have been violated or if it disagrees with the conclusions in the opinion that are not covered by the IRS ruling.

If the spin-off distribution fails to qualify for tax-free treatment, in general, we would be subject to tax as if we had sold HART's common stock in a taxable sale for its fair market value, and stockholders who receive shares of HART's common stock in the spin-off distribution would be subject to tax as if they had received a taxable distribution equal to the fair market value of such shares.

To the extent we do not structure certain corporate transactions in compliance with the requirements of certain "safe harbor" provision of the internal revenue code, the tax rules applicable to a tax-free spin-off may limit our ability to engage in certain corporate transactions or raise equity capital beyond certain thresholds for a period of time after the spin-off of HART.

Current U.S. federal income tax law creates a presumption that our spin-off of HART would be taxable to us, but not our stockholders, if such spin-off is part of a "plan or series of related transactions" pursuant to which one or more persons acquire directly or indirectly, stock representing a 50% or greater interest (by vote or value) in us or HART. Although acquisitions that occur during the four-year period that begins two years before the date of the spin-off are presumed to occur pursuant to a plan or series of related transactions, the U.S. Treasury regulations provide several "safe harbors" for acquisitions that would not be considered to be part of such a plan. Such regulations generally provide that whether an acquisition and a spin-off are part of a plan is determined based on all of the facts and circumstances, including, but not limited to, specific factors described in the U.S. Treasury regulations.

To the extent we acquire any businesses or engage in certain other corporate transactions during the two year period following the spin-off, we intend to structure such transactions in a manner that complies with the safe harbors provided by the U.S. Treasury regulations, however, the presumption that acquisitions will be part of a "plan or series of related transactions" may limit our ability during the two-year period following the spin-off to enter into certain transactions that may be advantageous to us and our stockholders, particularly, issuing equity securities to satisfy financing needs, repurchasing equity securities, disposing of certain assets, engaging in mergers and acquisitions, and, under certain circumstances, acquiring businesses or assets with equity securities or agreeing to be acquired.

To preserve the tax-free treatment of the spin-off to us and our stockholders, under the tax matters agreement that we entered into with HART in connection with the spin-off, we are prohibited from taking or failing to take (or permitting any of our subsidiaries, other than HART and its subsidiaries, to take or fail to take) any action where such action or failure to act would prevent the tax-free nature of the spin-off or be inconsistent with any material, information, covenant or representation that relates to facts or matters related to Harvard Bioscience (or any of our subsidiaries, other than HART and its subsidiaries) or our business or within our control and is contained in any representation letter related to the private letter ruling, supplemental private letter ruling or tax opinion (or any other supplemental private letter ruling or tax opinion that may be necessary) mentioned above. These restrictions may limit our ability to pursue strategic transactions of a certain magnitude that involve the issuance or acquisition of our stock or engage in new businesses or other transactions that might increase the value of our business. These restrictions may also limit our ability to raise significant amounts of cash through the issuance of stock, especially if our stock price were to suffer substantial declines, or through the sale of certain of our assets.

Third parties may seek to hold us responsible for HART's liabilities, including liabilities that HART has assumed from us.

Third parties may seek to hold us responsible for HART's liabilities, including any of the liabilities that HART agreed to retain or assume in connection with the separation of the HART business from our businesses, and related spin-off distribution. Pursuant to our agreements with HART, HART has agreed to indemnify us for claims and losses relating to certain liabilities that it has assumed from us, including liabilities in connection with the sale of HART's products, intellectually property infringement and other liabilities related to the operation of HART's business. However, if those liabilities are significant and we are ultimately held liable for them, we cannot assure you that HART will have the ability to satisfy its obligations to us. If HART is unable to satisfy its obligations under its indemnity to us, we may have to satisfy these obligations, which could have a material adverse impact on our financial condition, results of operations or cash flows.

If our goodwill or intangible assets become impaired, we may be required to record a significant charge to earnings.

Under accounting principles generally accepted in the United States ("U.S. GAAP"), we review our goodwill and intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Goodwill is also required to be tested for impairment at least annually. Factors that may be considered a change in circumstances indicating that the carrying value of our goodwill or other intangible assets may not be recoverable include a decline in our stock price and market capitalization, future cash flows, and slower growth rates in our industry. We may be required to record a significant charge to earnings in our financial statements during the period in which any impairment of our goodwill or other intangible assets is determined, which could adversely affect our results of operations.

Accounting for goodwill, other intangible assets and long-lived assets may have a material adverse effect on us.

We assess the recoverability of identifiable intangibles with finite lives and other long-lived assets, such as property, plant and equipment, for impairment whenever events or changes in circumstances indicate that the carrying value may not be recoverable in accordance with the provisions of Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASU") 360, "Property, Plant and Equipment". In accordance with FASB ASU 350, "Intangibles-Goodwill and

Other", goodwill and intangible assets with indefinite lives from acquisitions are evaluated annually, or more frequently, if events or circumstances indicate there may be an impairment, to determine whether any portion of the remaining balance of goodwill and indefinite lived intangibles may not be recoverable. If it is determined in the future that a portion of our goodwill and other intangible assets is impaired, we will be required to write off that portion of the asset according to the methods defined by FASB ASU 360 and FASB ASU 350, which could have an adverse effect on net income for the period in which the write-off occurs. At December 31, 2014, our continuing operations had goodwill and intangible assets of $62.2 million, or 46%, of our total assets and we concluded that none of our goodwill or other intangible assets was impaired.

If our accounting estimates are not correct, our financial results could be adversely affected.

Management judgment and estimates are required in the application of our Critical Accounting Policies. We discuss these estimates in the subsection entitled critical accounting policies beginning on page 26 in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations in this Annual Report. If our estimates are incorrect, our future financial operating results and financial condition could be adversely affected.

If we fail to retain key personnel and hire, train and retain qualified employees, we may not be able to compete effectively, which could result in reduced revenue or increased costs.

Our success is highly dependent on the continued services of key management, technical and scientific personnel. Our management and other employees may voluntarily terminate their employment at any time upon short notice. The loss of the services of any member of the senior management team, including the Chief Executive Officer, Jeffrey A. Duchemin, the Chief Financial Officer, Robert E. Gagnon, the Vice President Strategic Marketing and Business Development, Yong Sun, the Vice President of Global Sales, Yoav Sibony, or any of the managerial, technical or scientific staff may significantly delay or prevent the achievement of product development, our growth strategies and other business objectives. Our future success will also depend on our ability to identify, recruit and retain additional qualified scientific, technical and managerial personnel. We operate in several geographic locations where labor markets are particularly competitive, including Boston, Massachusetts, the New York metropolitan area, London and Cambridge, England, where demand for personnel with these skills is extremely high and is likely to remain high. As a result, competition for qualified personnel is intense, particularly in the areas of general management, finance, information technology, engineering and science, and the process of hiring suitably qualified personnel is often lengthy and expensive, and may become more expensive in the future. If we are unable to hire and retain a sufficient number of qualified employees, our ability to conduct and expand our business could be seriously reduced.

Rising commodity and precious metals costs could adversely impact our profitability.

Raw material commodities such as resins, and precious metal commodities such as platinum are subject to wide price variations. Increases in the costs and availability of these commodities and the costs of energy, transportation and other necessary services may adversely affect our profit margins if we are unable to pass along any higher costs in the form of price increases or otherwise achieve cost efficiencies such as in manufacturing and distribution.

If we are unable to effectively protect our intellectual property, third parties may use our technology, which would impair our ability to compete in our markets.

Our continued success will depend in significant part on our ability to obtain and maintain meaningful patent protection for certain of our products throughout the world. Patent law relating to the scope of claims in the technology fields in which we operate is still evolving. The degree of future protection for our proprietary rights is uncertain. We also own numerous U.S. registered trademarks and trade names and have applications for the registration of trademarks and trade names pending. We rely on patents to protect a significant part of our intellectual property and to enhance our competitive position. However, our presently pending or future patent applications may not be accepted and patents might not be issued, and any patent previously issued to us may be challenged, invalidated, held unenforceable or circumvented. Furthermore, the claims in patents which have been issued or which may be issued to us in the future may not be sufficiently broad to prevent third parties from producing competing products similar to our products. In addition, the laws of various foreign countries in which we compete may not protect our intellectual property to the same extent, as do the laws of the United States. If we fail to obtain adequate patent protection for our proprietary technology, our ability to be commercially competitive could be materially impaired.

In addition to patent protection, we also rely on protection of trade secrets, know-how and confidential and proprietary information. To maintain the confidentiality of trade-secrets and proprietary information, we generally seek to enter into confidentiality agreements with our employees, consultants and strategic partners upon the commencement of a relationship. However, we may not be able to obtain these agreements in all circumstances in part due to local regulations. In the event of unauthorized use or disclosure of this information, these agreements, even if obtained, may not provide meaningful protection

for our trade-secrets or other confidential information. In addition, adequate remedies may not exist in the event of unauthorized use or disclosure of this information. The loss or exposure of our trade secrets and other proprietary information would impair our competitive advantages and could have a material adverse effect on our operating results, financial condition and future growth prospects.

The manufacture, sale and use of products and services may expose us to product liability claims for which we could have substantial liability.

We face an inherent business risk of exposure to product liability claims if our products, services or product candidates, including without limitation, any of our life science research tools are alleged or found to have caused injury, damage or loss. We may in the future be unable to obtain insurance with adequate levels of coverage for potential liability on acceptable terms or claims of this nature may be excluded from coverage under the terms of any insurance policy that we can obtain. If we are unable to obtain such insurance or the amounts of any claims successfully brought against us substantially exceed our coverage, then our business could be adversely impacted.

We may be involved in lawsuits to protect or enforce our patents that would be expensive and time-consuming.

In order to protect or enforce our patent rights, we may initiate patent litigation against third parties. We may also become subject to interference proceedings conducted in the patent and trademark offices of various countries to determine the priority of inventions. Several of our products are based on patents that are closely surrounded by patents held by competitors or potential competitors. As a result, we believe there is a greater likelihood of a patent dispute than would be expected if our patents were not closely surrounded by other patents. The defense and prosecution, if necessary, of intellectual property suits, interference proceedings and related legal and administrative proceedings would be costly and divert our technical and management personnel from their normal responsibilities. We may not prevail in any of these suits should they occur. An adverse determination of any litigation or defense proceedings could put our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of being rejected and no patents being issued.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. For example, during the course of this kind of litigation, there could be public announcements of the results of hearings, motions or other interim proceedings or developments in the litigation. Securities analysts or investors may perceive these announcements to be negative, which could cause the market price of our stock to decline.

Our success will depend partly on our ability to operate without infringing on or misappropriating the intellectual property rights of others.

We may be sued for infringing on the intellectual property rights of others, including the patent rights, trademarks and trade names of third parties. In 2013, we received correspondence from legal counsel to Nanofiber Solutions, Inc., or NFS, claiming that in developing the scaffold product and related intellectual property now owned and being developed by HART, we may have committed misappropriation, unauthorized use and disclosure of confidential information, and possible infringement of intellectual property rights of NFS. Intellectual property litigation is costly and the outcome is uncertain. If we do not prevail in any intellectual property litigation, in addition to any damages we might have to pay, we could be required to stop the infringing activity, or obtain a license to or design around the intellectual property in question. If we are unable to obtain a required license on acceptable terms, or are unable to design around any third party patent, we may be unable to sell some of our products and services, which could result in reduced revenue.

Ethical concerns surrounding the use of our products and misunderstanding of the nature of our business could adversely affect our ability to develop and sell our existing products and new products.

Some of our products may be used in areas of research usage involving animal research and other techniques presently being explored in the life science industry. These techniques have drawn negative attention in the public forum. Government authorities may regulate or prohibit any of these activities. Additionally, the public may disfavor or reject these activities.

New regulations related to conflict minerals may force us to incur additional expenses and otherwise adversely impact our business.

The SEC has promulgated final rules mandated by the Dodd-Frank Act regarding disclosure of the use of tin, tantalum, tungsten and gold, known as conflict minerals, in products manufactured by public companies. These new rules require ongoing due diligence to determine whether such minerals originated from the Democratic Republic of Congo (the DRC) or an adjoining country and whether such minerals helped finance the armed conflict in the DRC. Reporting obligations for the rule began on

May 31, 2014 and are required annually thereafter. There will be costs associated with complying with these disclosure requirements, including costs to determine the origin of conflict minerals in our products. The implementation of these rules and their effect on customer, supplier and/or consumer behavior could adversely affect the sourcing, supply and pricing of materials used in our products. As a result, we may also incur costs with respect to potential changes to products, processes or sources of supply. We may face disqualification as a supplier for customers and reputational challenges if the due diligence procedures we implement do not enable us to verify the origins for all conflict minerals used in our products, including that such minerals did not originate from any of the covered conflict countries. Accordingly, the implementation of these rules could have a material adverse effect on our business, results of operations and/or financial condition.

Our stock price has fluctuated in the past and could experience substantial declines in the future.

The market price of our common stock has experienced significant fluctuations and may become volatile and could decline in the future, perhaps substantially, in response to various factors including:

- volatility of the financial markets;
- uncertainty regarding the prospects of the domestic and foreign economies;
- failure to achieve our desired tax treatment of the separation and spin-off of HART;
- technological innovations by competitors or in competing technologies;
- revenues and operating results fluctuating or failing to meet the expectations of management, securities analysts, or investors in any quarter;
- comments of securities analysts and mistakes by or misinterpretation of comments from analysts, downward revisions in securities analysts' estimates or management guidance;
- investment banks and securities analysts becoming subject to lawsuits that may adversely affect the perception of the market;
- conditions or trends in the biotechnology and pharmaceutical industries;
- announcements of significant acquisitions or financings or strategic partnerships;
- non-compliance with the internal control standards pursuant to the Sarbanes-Oxley Act of 2002; and
- a decrease in the demand for our common stock.

In addition, public stock markets have experienced extreme price and trading volatility. The stock market and the NASDAQ Global Market in general, and the biotechnology industry and small cap markets in particular, have experienced significant price and volume fluctuations that at times may have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry factors may further harm the market price of our common stock, regardless of our operating performance. In the past, securities class action litigation has often been instituted following periods of volatility in the market price of a company's securities. A securities class action suit against us could result in substantial costs, potential liabilities and the diversion of management's attention and resources.

Provisions of Delaware law, of our charter and bylaws and our Shareholder Rights Plan may make a takeover more difficult, which could cause our stock price to decline.

Provisions in our certificate of incorporation and bylaws and in the Delaware corporate law may make it difficult and expensive for a third party to pursue a tender offer, change in control or takeover attempt, which is opposed by management and the board of directors. Public stockholders who might desire to participate in such a transaction may not have an opportunity to do so. In February 2008, our Board of Directors adopted a Shareholder Rights Plan that could make it more difficult for a third party to acquire, or could discourage a third party from acquiring, the Company or a large block of our common stock. A third party that acquires 20% or more of our common stock (an "Acquiring Person") could suffer substantial dilution of its ownership interest under the terms of the Shareholder Rights Plan through the issuance of common stock to all shareholders other than the Acquiring Person. We also have a staggered board of directors that makes it difficult for stockholders to change the composition

of the board of directors in any one year. These anti-takeover provisions could substantially impede the ability of public stockholders to change our management and board of directors. Such provisions may also limit the price that investors might be willing to pay for shares of our common stock in the future.

An active trading market for our common stock may not be sustained.

Although our common stock is quoted on the NASDAQ Global Market, an active trading market for the shares may not be sustained. This could negatively affect the price for our common stock, including investors' ability to buy or sell our common stock and the listing thereof.

Any issuance of preferred stock in the future may dilute the rights of our common stockholders.

Our board of directors has the authority to issue up to 5,000,000 shares of preferred stock and to determine the price, privileges and other terms of these shares. The board of directors may exercise this authority without any further approval of stockholders. The rights of the holders of common stock may be adversely affected by the rights of future holders of preferred stock.

Cash dividends will not likely be paid on our common stock.

Currently, we intend to retain all of our earnings to finance the expansion and development of our business and do not anticipate paying any cash dividends to holders of our common stock in the near future. As a result, capital appreciation, if any, of our common stock will be a stockholder's sole source of gain for the near future.

Item 1B. ***Unresolved Staff Comments.***

None.

Item 2. ***Properties.***

Our thirteen principal facilities incorporate manufacturing, research and development, sales and marketing, and administration functions. Our facilities consist of:

- a leased 83,123 square foot facility in Holliston, Massachusetts, which includes our corporate headquarters,
- a leased 36,144 square foot facility in Charlotte, North Carolina,
- a leased 29,020 square foot facility in Richmond, California,
- a leased 28,000 square foot facility in Cambridge, England,
- a leased 23,000 square foot facility in Whitehall, Pennsylvania,
- a leased 22,900 square foot facility in Nordhausen, Germany,
- a leased 22,449 square foot facility in Reutlingen, Germany,
- a leased 20,853 square foot facility in Barcelona, Spain,
- a leased 17,436 square foot facility in South Plainfield, New Jersey,
- a leased 12,031 square foot facility in March-Hugstetten, Germany,
- a leased 7,500 square foot facility in Hamden, Connecticut,
- a leased 3,780 square foot facility in Durham, North Carolina, and
- a leased 3,229 square foot facility in Kista, Sweden.

We also lease additional facilities for sales and administrative support in Shanghai, China, Les Ulis, France, St. Augustin, Germany and Montreal, Canada.

As part of the fourth quarter 2013 Restructuring Plan, we decided to close our previously owned 15,500 square foot Endenbridge, England facility. During the fourth quarter 2014, the facility was sold for approximately $1.1 million. The gain on sale of $0.8 million was recorded in a separate line in our statement of operations within operating expenses.

We believe our current facilities are adequate for our needs for the foreseeable future.

Item 3. ***Legal Proceedings.***

From time to time, we may be involved in various claims and legal proceedings arising in the ordinary course of business. We are not currently a party to any such significant claims or proceedings.

Item 4. **Mine Safety Disclosures**

Not Applicable.

PART II

Item 5. ***Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.***

Price Range of Common Stock

Our common stock has been quoted on the NASDAQ Global Market since our initial public offering on December 7, 2000, and currently trades under the symbol "HBIO." The following table sets forth the range of the high and low sales prices per share of our common stock as reported on the NASDAQ Global Market for the quarterly periods indicated.

Fiscal Year Ended December 31, 2014	**High**	**Low**
First Quarter	$ 4.88	$ 4.10
Second Quarter	$ 4.74	$ 3.73
Third Quarter	$ 4.90	$ 4.09
Fourth Quarter	$ 5.67	$ 4.14

Fiscal Year Ended December 31, 2013	**High**	**Low**
First Quarter	$ 4.61	$ 3.25
Second Quarter	$ 4.32	$ 3.45
Third Quarter	$ 4.28	$ 3.60
Fourth Quarter	$ 5.07	$ 3.76

The table above reflects the stock price ranges as adjusted for the spin-off of HART which was effected on November 1, 2013, for the 2013 periods presented. On March 6, 2015, the closing sale price of our common stock on the NASDAQ Global Market was $5.58 per share. There were 168 holders of record of our common stock as of March 6, 2015. We believe that the number of beneficial owners of our common stock at that date was substantially greater.

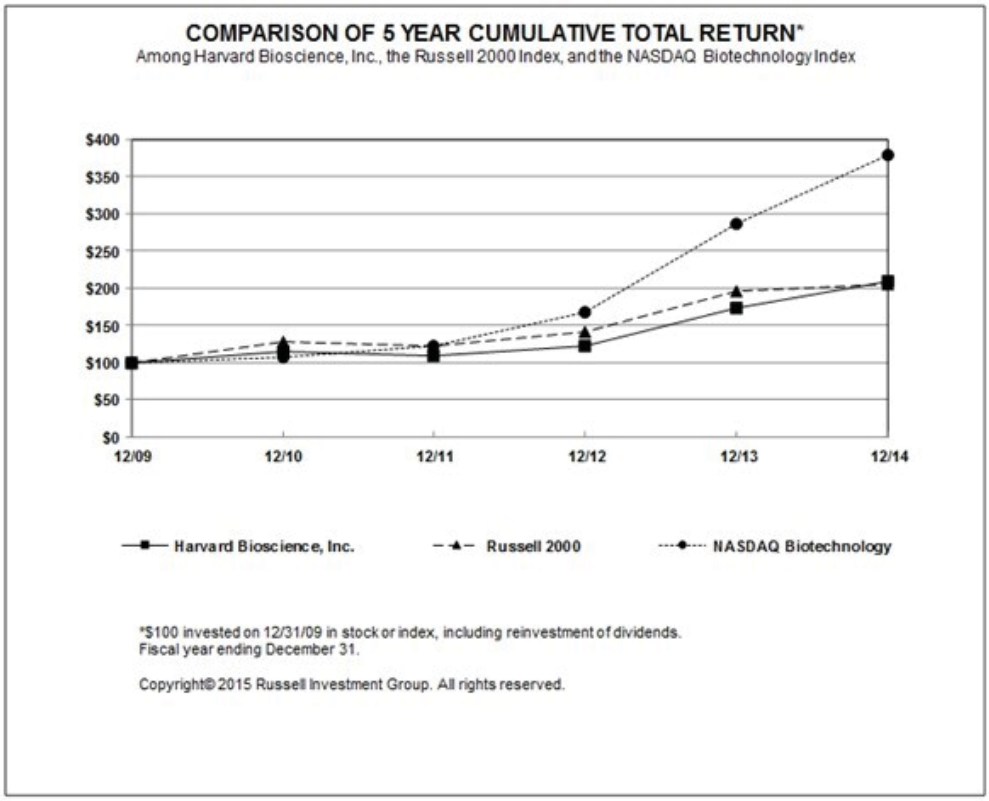
Dividend Policy

We have never declared or paid cash dividends on our common stock in the past and do not intend to pay cash dividends on our common stock in the foreseeable future. Any future determination to pay cash dividends will be at the discretion of our Board of Directors and will depend on our financial condition, results of operations, capital requirements and other factors our Board of Directors deems relevant.

Stockholder Return Performance Graph

This performance graph shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the Exchange Act), or incorporated by reference into any filing of Harvard Bioscience under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

The following graph provides a comparison of the cumulative total stockholder return on the Company's common stock from December 31, 2009 to December 31, 2014 with the cumulative return of the Russell 2000 Index and the Nasdaq Biotechnology Index over the same period. The five-year cumulative return assumes an initial investment of $100 in the Company's common stock and in each index on December 31, 2009. The total return for the Company's common stock and the indices used assumes the reinvestment of all dividends. The table below reflects the stock prices as adjusted for the spin-off of HART which was effected on November 1, 2013, for all periods presented.



	12/09	12/10	12/11	12/12	12/13	12/14
Harvard Bioscience, Inc.	**100.00**	**114.29**	**108.40**	**122.69**	**173.76**	**209.62**
Russell 2000	**100.00**	**126.86**	**121.56**	**141.43**	**196.34**	**205.95**
NASDAQ Biotechnology	**100.00**	**106.73**	**122.40**	**166.72**	**286.55**	**379.71**

The stock price performance included in this graph is not necessarily indicative of future stock price performance.

Item 6. Selected Financial Data

The financial data presented below have been derived from our audited consolidated financial statements. The selected historical financial data presented below should be read in conjunction with "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Item 8. Financial Statements and Supplementary Data." and with our previously filed Annual Reports on Form 10-K. The selected data in this section is not intended to replace the consolidated financial statements. The information presented below is not necessarily indicative of the results of our future operations.

	For The Years Ended December 31,				
	2014	2013	2012	2011	2010
	(in thousands, except per share data)				
Statement of Operations Data:					
Revenues	$ 108,663	$ 105,171	$ 111,171	$ 108,864	$ 108,179
Cost of revenues	59,319	57,475	58,831	58,672	56,400
Gross profit	49,344	47,696	52,340	50,192	51,779
Operating expenses	42,726	46,159	44,510	41,787	40,938
Operating income	6,618	1,537	7,830	8,405	10,841
Other expense, net	(2,201)	(1,102)	(938)	(1,537)	(655)
Income from continuing operations before income taxes	4,417	435	6,892	6,868	10,186
Income tax expense (benefit)	2,062	(288)	2,398	1,579	(9,452)
Income from continuing operations	2,355	723	4,494	5,289	19,638
Discontinued operations (1):					
Loss from discontinued operations, net of tax	-	(2,553)	(2,124)	(1,477)	(623)
Net income (loss)	$ 2,355	$ (1,830)	$ 2,370	$ 3,812	$ 19,015
Earnings (loss) per share:					
Basic earnings per common share from continuing operations	$ 0.07	$ 0.02	$ 0.16	$ 0.19	$ 0.68
Discontinued operations	-	(0.08)	(0.07)	(0.05)	(0.02)
Basic earnings (loss) per common share	$ 0.07	$ (0.06)	$ 0.09	$ 0.14	$ 0.66
Diluted earnings per common share from continuing operations	$ 0.07	$ 0.02	$ 0.15	$ 0.18	$ 0.67
Discontinued operations	-	(0.08)	(0.07)	(0.05)	(0.02)
Diluted earnings (loss) per common share	$ 0.07	$ (0.06)	$ 0.08	$ 0.13	$ 0.65
Weighted average common shares:					
Basic	32,171	30,384	28,799	28,451	28,967
Diluted	33,237	31,914	29,793	29,819	29,405

	As of December 31,				
	2014	2013	2012	2011	2010
	(in thousands)				
Balance Sheet Data:					
Cash and cash equivalents	$ 14,134	$ 25,771	$ 20,681	$ 17,916	$ 19,704
Working capital	38,964	44,665	49,071	48,004	47,270
Total assets	135,916	135,460	133,484	126,634	124,797
Long-term debt, net of current portion	16,450	19,750	12,950	16,300	18,009
Stockholders' equity	95,468	94,485	104,213	95,499	90,248

(1) Discontinued operations include:

On September 30, 2008, we completed the sale of assets of our Union Biometrica Division including its German subsidiary, Union Biometrica GmbH, representing at that time the remaining portion of our Capital Equipment Business Segment, to UBIO Acquisition Company. The purchase price paid by UBIO Acquisition Company included an earn-out based on the revenue generated by the acquired business over a five-year post-transaction period. Discontinued operations include a gain on disposal related to the earn-out, net of tax, of $0.3 million and $0.8 million in 2013 and 2012, respectively.

On November 1, 2013, the spin-off of our RMD business from our Company was completed. Through the spin-off date the historical operations of RMD were reported as continuing operations in our consolidated statements of operations. Following the spin-off, and reported herein, the historical operations of RMD were restated and presented as discontinued operations in our consolidated statements of operations presented. Discontinued operations include the results of the RMD business except for certain corporate overhead costs and other allocations, which remain in continuing operations. The costs incurred to separate and spin-off the RMD business remain in continuing operations and have been classified and reported as transaction costs, within operating expenses, on our consolidated statements of operations. Discontinued operations include losses from operations of the RMD business, net of tax, for 2013 and 2012 of $2.8 million and $3.0 million, respectively.

Item 7. ***Management's Discussion and Analysis of Financial Condition and Results of Operations.***

Forward-Looking Statements

The following section of this Annual Report on Form 10-K entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" contains statements that are not statements of historical fact and are forward-looking statements within the meaning of federal securities laws. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. Factors that may cause our actual results to differ materially from those in the forward-looking statements include those factors described in "Item 1A. Risk Factors" beginning on page 10 of this Annual Report on Form 10-K. You should carefully review all of these factors, as well as the comprehensive discussion of forward-looking statements on page 1 of this Annual Report on Form 10-K.

Overview

Harvard Bioscience, Inc., a Delaware corporation, is a global developer, manufacturer and marketer of a broad range of scientific instruments, systems and lab consumables used to advance life science for basic research, drug discovery, clinical and environmental testing. Our products are sold to thousands of researchers in over 100 countries through our global sales organization, websites, catalogs, and through distributors including Thermo Fisher Scientific Inc., VWR, GE Healthcare, and other specialized distributors. We have sales and manufacturing operations in the United States, the United Kingdom, Germany, Sweden, Spain, France, Canada, and China.

From 2009 through November 1, 2013, Harvard Bioscience's operations included two main businesses, the Life Science Research Tools business and the Regenerative Medicine Device business. In 2013, we formed and consummated the spin-off of Harvard Apparatus Regenerative Technology, Inc. ("HART") to our existing shareholders by means of a distribution of the stocks we owned in HART. The results of the HART business are included in discontinued operations for all periods presented.

At the end of 2013 we began a multiple year restructuring program to reduce costs, align global functions, consolidate facilities, and reinvest in key areas such as sales and IT. As part of the reinvestment, we initiated a plan in 2014 to invest in and implement a new global ERP platform. Additionally, during 2014, as part of the restructuring program, we initiated plans to relocate and consolidate the distribution, finance and marketing operations of our Denville Scientific facility and manufacturing operations of our Biochrom facility. We believe the restructuring program positions the Company to stabilize, focus on, and grow the life science business.

On October 1, 2014, we acquired all of the issued and outstanding shares of two life science companies for approximately $12.7 million, net of cash acquired: Multi Channel Systems MCS GmbH, or MCS, which has its principal offices in Germany, and Triangle BioSystems, Inc., or TBSI, which has its principal offices in North Carolina. We funded the acquisitions of MCS and TBSI from our existing cash balances and borrowings under our credit facility, respectively.

Our Strategy

Our vision is to be a world leading life science company that excels in meeting the needs of our customers by providing a wide breath of innovative products and solutions, while providing exemplary customer service.

Our business strategy is to have a broad range of highly specialized products that have strong positions in targeted market segments within the life science industry.

We believe that:

- having a broad and high quality product offering reduces the risk of being dependent on a single technology;
- having relatively inexpensive products including instruments, systems, and consumables reduces the volatility associated with expensive capital equipment;
- providing strong technical and application service helps customers solve their problems and provides additional value to the customer in their research; and
- having a global sales, marketing and distribution team reaches directly to customers and builds strong relationships with them.

We seek to grow this range of products through a combination of organic growth driven by internal development of new products, direct marketing, global sales and distribution channel expansion, and the acquisition of products. We use acquisitions to expand our product offerings because we believe we can use our well-established brands and distribution channels to accelerate the growth of these acquired products. Our operational strategy aims to continuously improve our operational efficacy across the Company, including the newly acquired companies, therefore contributing to profit improvement. As discussed earlier, we initiated a plan in the fourth quarter of 2014 to relocate our Denville distribution operations and consolidate our Biochrom manufacturing operations. As part of this plan we expect to incur costs of approximately $0.8 million to $1.0 million in 2015, while the relocation and consolidation of these facilities will result in savings of approximately $0.8 million to $1.0 million annually beginning in 2016.

Subsequent Event

On January 8, 2015, we acquired, through our wholly-owned Multi Channel Systems MCS GmbH subsidiary, all of the issued and outstanding shares of HEKA for approximately $6.0 million. Included in the acquisition of HEKA are: HEKA Electronik Dr. Schulze GmbH, based in Lambrecht, Germany; HEKA Electronics Incorporated, based in Chester, Nova Scotia, Canada; and HEKA Instruments Incorporated, based in Bellmore, New York. We funded the acquisition from our existing cash balances.

HEKA is a developer, manufacturer and marketer of sophisticated electrophysiology instrumentation and software for biomedical and industrial research applications. This acquisition is complementary to the electrophysiology line currently offered by our wholly-owned Warner Instruments and MCS subsidiaries.

Together, we expect the acquisitions of MCS, TBSI and HEKA to add approximately $12 million in annual revenues and will be accretive to earnings per share.

In the table below, we provide an overview of selected operating metrics.

	2014	% of Revenues	2013	% of Revenues	2012	% of Revenues
			(dollars in thousands)			
Revenues	$108,663		$105,171		$111,171	
Cost of revenues	59,319	54.6%	57,475	54.6%	58,831	52.9%
Sales and marketing expenses	18,225	16.8%	17,330	16.5%	18,287	16.4%
General and administrative expenses	16,826	15.5%	17,887	17.0%	18,121	16.3%
Research and development expenses	4,880	4.5%	4,154	3.9%	4,344	3.9%
Restructuring charges	1,027	0.9%	2,150	2.0%	310	0.3%
Amortization of intangible assets	2,578	2.4%	2,590	2.5%	2,752	2.5%
HART transaction costs	-	0.0%	2,048	1.9%	696	0.6%
Gain on sale of assets	(810)	-0.7%	-	0.0%	-	0.0%

Components of Operating Income

Revenues. We generate revenues by selling apparatus, instruments, devices and consumables through our catalogs, our distributors, our direct sales force and our websites. Our websites and catalogs serve as the primary sales tools for our Physiology and Fluidics related product lines. These product lines include both proprietary manufactured products and complementary products from various suppliers. Our reputation as a leading producer in many of our manufactured products creates traffic to our website, enables cross-selling and facilitates the introduction of new products. We have field sales teams in the U.S., Canada, the United Kingdom, Germany, France, Spain and China. In those regions where we do not have a direct sales team, we use distributors. Revenues from direct sales to end users represented approximately 58% of our revenues for the year ended December 31, 2014. For the years ended December 31, 2013 and 2012, revenues from direct sales to end users represented approximately 57% of our revenues for each period.

Products in our Molecular and Cell analysis product lines are generally sold by distributors, and are typically priced in the range of $5,000-$15,000. They are mainly scientific instruments like spectrophotometers and plate readers that analyze light to detect and quantify a wide range of molecular and cellular processes, or apparatus like gel electrophoresis units. We also use distributors for both our catalog products and our higher priced products, for sales in locations where we do not have subsidiaries or where we have existing distributors in place from acquired businesses. For the year ended December 31, 2014, approximately 42% of our revenues were derived from sales to distributors. For the years ended December 31, 2013 and 2012, approximately 43% of our revenues were derived from sales to distributors.

For the years ended December 31, 2014, 2013 and 2012, approximately 65%, 64% and 67% of our revenues, respectively, were derived from products we manufacture, approximately 10%, 11% and 10%, respectively, were derived from complementary products we distribute in order to provide the researcher with a single source for all equipment needed to conduct a particular experiment, and approximately 25%, 25% and 23%, respectively, were derived from distributed products sold under our brand names.

For the years ended December 31, 2014, 2013 and 2012, approximately 41%, 39% and 41% of our revenues, respectively, were derived from sales made by our non-U.S. operations.

Changes in the relative proportion of our revenue sources between catalog or website sales, direct sales and distribution sales are primarily the result of a different sales proportion of acquired companies.

Cost of product revenues. Cost of product revenues includes material, labor and manufacturing overhead costs, obsolescence charges, packaging costs, warranty costs, shipping costs and royalties. Our cost of product revenues may vary over time based on the mix of products sold. We sell products that we manufacture and products that we purchase from third parties. The products that we purchase from third parties have a higher cost of product revenues as a percent of revenues because the profit is effectively shared with the original manufacturer. We anticipate that our manufactured products will continue to have a lower cost of product revenues as a percentage of revenues as compared with the cost of non-manufactured products for the foreseeable future. Additionally, our cost of product revenues as a percent of product revenues will vary based on mix of direct to end user sales and distributor sales, mix by product line and mix by geography.

Sales and marketing expenses. Sales and marketing expense consists primarily of salaries and related expenses for personnel in sales, marketing and customer support functions. We also incur costs for travel, trade shows, demonstration equipment, public relations and marketing materials, consisting primarily of the printing and distribution of our catalogs, supplements and the maintenance of our websites. We may from time to time expand our marketing efforts by employing additional technical marketing specialists in an effort to increase sales of selected categories of products. We may also from time to time expand our direct sales organizations in an effort to concentrate on key accounts or promote certain product lines.

General and administrative expenses. General and administrative expense consists primarily of salaries and other related costs for personnel in executive, finance, accounting, information technology and human resource functions. Other costs include professional fees for legal and accounting services, facility costs, investor relations, insurance and provision for doubtful accounts.

Research and development expenses. Research and development expense consists primarily of salaries and related expenses for personnel and spending to develop and enhance our products. Other research and development expense includes fees for consultants and outside service providers, and material costs for prototype and test units. We expense research and development costs as incurred. We believe that investment in product development is a competitive necessity and plan to continue to make these investments in order to realize the potential of new technologies that we develop, license or acquire for existing markets.

Restructuring charges. Restructuring charges consist of severance, other personnel-related charges and exit costs related to plans to create organizational efficiencies and reduce operating expenses.

HART transaction costs. HART transaction costs consist of legal, accounting and other professional fees incurred to facilitate the separation and spin-off of HART. The costs have been included as a component of operating expenses on our consolidated statements of income.

Stock-based compensation expenses. Stock-based compensation expense for the years ended December 31, 2014, 2013 and 2012 was $2.2 million, $2.7 and $3.3 million, respectively. The stock-based compensation expense related to stock options, restricted stock units, and the employee stock purchase plan and was recorded as a component of cost of revenues, sales and marketing expenses, general and administrative expenses, research and development expenses and discontinued operations.

Currently, we intend to retain all of our earnings to finance the expansion and development of our business and do not anticipate paying any cash dividends to holders of our common stock in the near future. As a result, capital appreciation, if any, of our common stock will be a stockholder's sole source of gain for the near future.

Bookings and Backlog

We monitor bookings and backlog as these are indicators of future revenues and business activity levels. Bookings were $109.9 million and $105.6 million for the years ended December 31, 2014 and 2013, respectively. Excluding the effects of currency translation, our bookings increased $3.3 million, or 3.1% from the previous year. Bookings were $105.6 million and $110.5 million for the years ended December 31, 2013 and 2012, respectively. Excluding the effects of currency translation, our bookings decreased $5.0 million, or 4.5% from the previous year.

Our order backlog was approximately $7.2 million and $5.1 million as of December 31, 2014 and 2013, respectively. Excluding the effects of currency translation, our backlog increased $2.4 million, or 46.5% from the previous year. The increase in backlog was primarily the result of our fourth quarter acquisitions of MCS and TBSI and the timing of customer orders and shipments. Our order backlog was approximately $5.1 million and $4.6 million as of December 31, 2013 and 2012, respectively. Excluding the effects of currency translation, our backlog increased $0.5 million, or 10.0% from the previous year. The increase in backlog was primarily the result of the timing of customer orders and shipments. We include in backlog only those orders for which we have received valid purchase orders. Purchase orders may be cancelled at any time prior to shipment. Our backlog as of any particular date may not be representative of actual sales for any succeeding period.

Selected Results of Operations

Year Ended December 31, 2014 compared to Year Ended December 31, 2013

Each reporting period, we face currency exposure that arises from translating the results of our worldwide operations to the U.S. dollar at exchange rates that fluctuate from the beginning of such period. We evaluate our results of operations on both a reported and a foreign currency-neutral basis, which excludes the impact of fluctuations in foreign currency exchange rates. We believe that disclosing this non-GAAP financial information provides investors with an enhanced understanding of the underlying operations of the business. This non-GAAP financial information approximates information used by our management to internally evaluate the operating results of the Company. The non-GAAP financial information provided below should be considered in addition to, not as a substitute for, the financial information provided and presented in accordance with GAAP.

Revenues

Revenues increased $3.5 million, or 3.3%, to $108.7 million for the year ended December 31, 2014 compared to $105.2 million for the same period in 2013. Currency translation had a positive 0.9% effect on revenues for the year ended December 31, 2014 compared to the same period in 2013. Excluding the effects of currency translation, our revenues increased 2.4% from the previous year. The increase was the result of revenues from the newly acquired MCS and TBSI and organic growth.

Reconciliation of Changes In Revenues Compared to the Same Period of the Prior Year

	For the Year Ended December 31, 2014
Growth	2.4%
Foreign exchange effect	0.9%
Total revenue growth	3.3%

Cost of revenues

Cost of revenues increased $1.8 million, or 3.2%, to $59.3 million for the year ended December 31, 2014 compared with $57.5 million for the year ended December 31, 2013. Gross profit margin as a percentage of revenues was 45.4% for both years ended December 31, 2014 and 2013. Contributing factors in the year over year increase were currency translation, costs from our fourth quarter acquisitions, as well as unpaid incentive bonus costs.

Sales and marketing expenses

Sales and marketing expenses increased $0.9 million, or 5.2%, to $18.2 million for the year ended December 31, 2014 compared with $17.3 million for the year ended December 31, 2013. The increase was primarily due to unpaid incentive bonus costs, our fourth quarter acquisitions and unfavorable currency translation.

General and administrative expenses

General and administrative expenses decreased $1.1 million, or 5.9%, to $16.8 million for the year ended December 31, 2014 compared with $17.9 million for the year ended December 31, 2013. The decrease was primarily due to lower payroll related costs and lower stock compensation expenses, partially offset by unpaid incentive bonus costs, our fourth quarter acquisitions and unfavorable currency translation.

Research and development expenses

Research and development expenses were $4.9 million for the year ended December 31, 2014, an increase of approximately $0.7 million, or 17.5%, compared with $4.2 million the year ended December 31, 2013. The increase was primarily due to higher payroll related costs, including unpaid incentive bonus costs, our fourth quarter acquisitions and unfavorable currency translation.

Amortization of intangible assets

Amortization of intangible asset expenses was $2.6 million for the year ended December 31, 2014, which was unchanged from the year ended December 31, 2013.

Restructuring

Restructuring charges were $1.0 million for year ended December 31, 2014 compared with $2.2 for the year ended December 31, 2013. The decrease was primarily due to charges recorded during the year ended December 31, 2013 related to the company-wide restructuring plan we implemented during the year ended December 31, 2013, partially offset by additional charges recorded during the year ended December 31, 2014 related to such 2013 restructuring plan and charges related to the restructuring plan we commenced during the year ended December 31, 2014. The 2013 restructuring plan realigned global operations and included a reduction of our workforce of approximately 13%, as well as the elimination of the position of Chief Operating Officer. The 2014 restructuring plan realigned global operations and included actions to move the Biochrom and Denville operations to Holliston, MA and Charlotte, NC, respectively.

HART transaction costs

HART transaction costs, which consist of corporate transaction costs related to the separation and spin-off of HART, were $0 for the year ended December 31, 2014 compared with $2.0 million for the year ended December 31, 2013.

Gain on sale of assets

As part of the 2013 restructuring plan, we decided to close one of our facilities in the United Kingdom. During the fourth quarter 2014, the facility was sold. The gain of $0.8 million was recorded in a separate line in our statement of operations within operating expenses.

Other expense, net

Other expense, net, was $2.2 million and $1.1 million for the years ended December 31, 2014 and 2013, respectively. Interest expense was $1.0 million for the year ended December 31, 2014, which was flat compared to interest expense for the year ended December 31, 2013. The increase in other expense, net was due to $1.1 million in acquisition related costs incurred during the year ended December 31, 2014 compared to $0 for the year ended December 31, 2013.

Income taxes

Income tax expense (benefit) from continuing operations was approximately $2.1 million expense and $0.3 benefit for the years ended December 31, 2014 and 2013, respectively. The effective income tax rate from continuing operations was 46.7% expense for the year ended December 31, 2014, compared with 66.2% benefit for the same period in 2013. The difference between our effective tax rate year over year was primarily attributable an increase in valuation allowance related to foreign tax credits in 2014 versus certain non-deductible costs related to the HART spin-off partially offset by higher research and development tax credits and pension expense in 2013.

Discontinued Operations

In September 2008, we completed the sale of assets of our Union Biometrica Division including our German subsidiary, Union Biometrica GmbH, to UBIO Acquisition Company. During 2013, we received earn-out payments, including interest, from UBIO Acquisition Company, of $1.8 million related to the 2008 acquisition. We received our final payment under the earn-out obligation from UBIO Acquisition Company in October 2013. Included in the loss from discontinued operations, net of taxes, is a gain on disposal related to the Union Biometrica earn-out of $0.3 million for the year ended December 31, 2013.

On November 1, 2013, the spin-off of HART and our RMD business was completed. Through the spin-off date the historical operations of RMD were reported as continuing operations in our consolidated statements of operations. Following the spin-off, the historical operations of RMD were restated and presented as discontinued operations in our consolidated statements of operations. Discontinued operations include the results of the RMD business except for certain corporate overhead costs and other allocations, which remain in continuing operations. The costs we incurred to separate and spin-off the RMD business are included in our continuing operations and have been classified and reported as transaction costs, within operating expenses, on our consolidated statements of operations. Loss from discontinued operations, net of taxes, related to RMD was $2.8 million for the year ended December 31, 2013.

Year Ended December 31, 2013 Compared to Year Ended December 31, 2012

Each reporting period, we face currency exposure that arises from translating the results of our worldwide operations to the U.S. dollar at exchange rates that fluctuate from the beginning of such period. We evaluate our results of operations on both a reported and a foreign currency-neutral basis, which excludes the impact of fluctuations in foreign currency exchange rates. We believe that disclosing this non-GAAP financial information provides investors with an enhanced understanding of the underlying operations of the business. This non-GAAP financial information approximates information used by our management to internally evaluate the operating results of the Company. The non-GAAP financial information provided below should be considered in addition to, not as a substitute for, the financial information provided and presented in accordance with GAAP.

Revenues

Revenues decreased $6.0 million, or 5.4%, to $105.2 million for the year ended December 31, 2013 compared to $111.2 million for the same period in 2012. Currency translation had a positive 0.2% effect on revenues for 2013 compared with 2012. Excluding the effects of currency translation, our revenues decreased 5.6% from the previous year. Weakness in North America due to the U.S. government sequester and in several European markets (specifically Spain, Germany, and the UK) due to continued economic uncertainty and government budget constraints, as well as a decrease in revenues associated with our distributor, GE Healthcare, contributed to the year over year decrease in revenues.

Reconciliation of Changes In Revenues Compared to the Same Period of the Prior Year

	For the Year Ended December 31, 2013
Growth (decline)	-5.6%
Foreign exchange effect	0.2%
Total revenue growth (decline)	-5.4%

Cost of revenues

Cost of revenues decreased $1.3 million, or 2.3%, to $57.5 million for the year ended December 31, 2013 compared with $58.8 million for the year ended December 31, 2012. Gross profit as a percentage of revenues decreased to 45.4% for the year ended December 31, 2013 compared with 47.1% for the same period in 2012. The decline in margin was due primarily to inventory adjustments relating to discontinued and obsolete inventory and, lower sales volume and product mix.

Sales and marketing expenses

Sales and marketing expenses decreased $1.0 million, or 5.2%, to $17.3 million for the year ended December 31, 2013 compared with $18.3 million for the year ended December 31, 2012. The decrease was primarily attributable to lower payroll related costs, lower commissions, lower travel expenses and lower advertising and promotional expenses.

General and administrative expenses

General and administrative expenses decreased $0.2 million, or 1.3%, to $17.9 million for the year ended December 31, 2013 compared with $18.1 million for the year ended December 31, 2012. The decrease was primarily due to lower stock compensation expense, partially offset by higher legal and consulting fees.

Research and development expenses

Research and development expenses were $4.2 million for the year ended December 31, 2013, a decrease of approximately $0.1 million, or 4.4%, compared with $4.3 million the year ended December 31, 2012. The decrease was mainly due to lower project supplies and outside services.

Amortization of intangible assets

Amortization of intangible asset expenses was $2.6 million for the year ended December 31, 2013 compared with $2.8 million for the year ended December 31, 2012.

Restructuring

Restructuring charges increased approximately $1.9 million to $2.2 million for the year ended December 31, 2013 compared with $0.3 million for the year ended December 31, 2012. The increase was primarily due to a company-wide restructuring plan we implemented during the year ended December 31, 2013. This plan realigned global operations and included a reduction of our workforce of approximately 13%, as well as the elimination of the position of Chief Operating Officer.

HART transaction costs

HART transaction costs, which consist of corporate transaction costs related to the separation and spin-off of HART, were $2.0 million for the year ended December 31, 2013 compared with $0.7 million for the same period in 2012.

Other expense, net

Other expense, net, was $1.1 million and $0.9 million for the years ended December 31, 2013 and 2012, respectively. Interest expense was $1.0 million for the year ended December 31, 2013 compared to interest expense of $0.6 million for the year ended December 31, 2012. The increase in interest expense was primarily due to both higher average debt balances and interest rates in 2013 compared to the prior year. Other expense, net for the years ended December 31, 2013 and 2012, also included $0 and $0.3 million, respectively, of acquisition related expenses.

Income taxes

Income tax (benefit) expense from continuing operations was approximately $0.3 million benefit and $2.4 million expense for the years ended December 31, 2013 and 2012, respectively. The effective income tax rate from continuing operations was 66.2% benefit for the year ended December 31, 2013, compared with 34.8% expense for the same period in 2012. The difference between our effective tax rate year to year was primarily attributable to increased research and development tax credits and pension expense benefits in 2013 versus 2012, an increase in the valuation allowance related to foreign tax credits in 2012, partially offset by non-deductible costs related to the spin-off of HART in 2013.

Discontinued Operations

In September 2008, we completed the sale of assets of our Union Biometrica Division including our German subsidiary, Union Biometrica GmbH, representing the remaining portion of our Capital Equipment Business Segment, to UBIO Acquisition Company. The purchase price paid by UBIO Acquisition Company under the terms of the asset purchase agreement consisted of $1 in cash, the assumption of certain liabilities, plus additional consideration in the form of an earn-out based on the revenues generated by the acquired business as it was conducted by UBIO Acquisition Company over a five-year post-transaction period in an amount equal to (i) 5% of the revenues generated up to and including $6.0 million each year and (ii) 8% of the revenues generated above $6.0 million each year. Any earn-out amounts were evidenced by interest-bearing promissory notes due on September 30, 2013 or at an earlier date based on certain triggering events. During 2013, UBIO Acquisition Company made payments, including interest, of $1.8 million. UBIO Acquisition Company's final payment under the earn-out obligation was received in October 2013. Included in the loss from discontinued operations, net of taxes, is a gain on disposal related to the Union Biometrica earn-out of $0.3 million in 2013 compared to $0.8 million in 2012.

On November 1, 2013, the previously announced spin-off of our Regenerative Medicine Device ("RMD") business was completed. Through the spin-off date the historical operations of RMD were reported as continuing operations in our consolidated statements of operations. Following the spin-off, the historical operations of RMD were restated and presented as discontinued operations in our consolidated statements of operations. Discontinued operations include the results of the RMD business except for certain corporate overhead costs and other allocations, which remain in continuing operations. The costs we incurred to separate and spin-off the RMD business are included in our continuing operations and have been classified and reported as transaction costs, within operating expenses, on our consolidated statements of operations. Loss from discontinued operations, net of taxes, related to RMD was $2.8 million in 2013 compared to $3.0 million in 2012.

Liquidity and Capital Resources

Historically, we have financed our business through cash provided by operating activities, the issuance of common stock, and bank borrowings. Our liquidity requirements arise primarily from investing activities, including funding of acquisitions, and other capital expenditures. As previously discussed, on October 1, 2014, we acquired all of the issued and outstanding shares of two life science companies, MCS and TBSI, for approximately $12.7 million, net of cash acquired. We funded the acquisitions of MCS and TBSI from our existing cash balances and borrowings under our credit facility, respectively. Additionally, on January 8, 2015, we acquired all of the issued and outstanding shares of HEKA for approximately $6.0 million. We funded the acquisition from our existing cash balances.

In our consolidated statements of cash flows, we have elected to combine the cash flows from both continuing and discontinued operations within each category, as allowed by FASB ASC 230 "Statement of Cash Flows". Unless specifically noted otherwise, our discussion of our cash flows below refers to combined cash flows from both continuing and discontinued operations.

As of December 31, 2014, we held cash and cash equivalents of $14.1 million, compared with $25.8 million at December 31, 2013. As of December 31, 2014 and December 31, 2013, we had $21.5 million and $24.8 million, respectively, of borrowings outstanding under our credit facility. Total debt, net of cash and cash equivalents was $7.4 million at December 31, 2014, compared to total cash and cash equivalents, net of debt of $1.0 million at December 31, 2013. In addition, we had an underfunded U.K. pension liability of approximately $4.4 million and $4.9 million at December 31, 2014 and December 31, 2013, respectively.

As of December 31, 2014 and December 31, 2013, cash and cash equivalents held by our foreign subsidiaries was $12.7 million and $23.6 million, respectively. These funds are not available for domestic operations unless the funds are repatriated. If we planned to or did repatriate these funds, then U.S. federal and state income taxes would have to be recorded on such amounts. We currently have no plans and do not intend to repatriate any of our undistributed foreign earnings. These balances are considered permanently reinvested and will be used for foreign items including foreign acquisitions, capital investments, pension obligations and operations. It is impracticable to estimate the total tax liability, if any, which would be created by the future distribution of these earnings. In October 2014, we acquired all the issued and outstanding shares of MCS, and utilized approximately $11.0 million of our foreign cash on hand.

Overview of Cash Flows for the Years Ended December 31,

	2014	2013	2012
		(in thousands)	
Cash flows from operations:			
Net income (loss)	$ 2,355	$ (1,830)	$ 2,370
Changes in assets and liabilities	(4,514)	1,940	256
Other adjustments to operating cash flows	6,510	3,950	5,436
Net cash provided by operating activities	4,351	4,060	8,062
Investing activities:			
Additions to property, plant and equipment	(2,005)	(1,622)	(1,769)
Acquisitions, net of cash acquired	(12,653)	-	(2,878)
Other investing activities	1,141	1,793	(29)
Net cash (used in) provided by investing activities	(13,517)	171	(4,676)
Financing activities:			
Net (repayments of) proceeds from issuance of debt	(3,300)	11,800	(3,350)
Transfer of cash and cash equivalents to HART	-	(15,041)	-
Other financing activities	2,066	3,309	2,287
Net cash (used in) provided by financing activities	(1,234)	68	(1,063)
Effect of exchange rate changes on cash	(1,237)	791	442
(Decrease) increase in cash and cash equivalents	$ (11,637)	$ 5,090	$ 2,765

Our operating activities generated cash of $4.4 million for the year ended December 31, 2014, $4.1 million for the year ended December 31, 2013 and $8.1 for the year ended December 31, 2012. The increase in cash flows from operations in 2014 compared to 2013 was primarily due to higher net income for the year ended December 31, 2014 compared to the same period in 2013, partially offset by an increase in inventory for the year ended December 31, 2014 compared to the same period in 2013. The increase was the result of higher temporary inventory requirements necessary to relocate our Denville distribution business from New Jersey to North Carolina and the consolidation of our UK manufacturing operations with our Holliston, MA facility. The decrease in cash flows from operations in 2013 compared to 2012 was primarily due to lower net income year over year.

Our investing activities used cash of $13.5 million during the year ended December 31, 2014, provided $0.2 million of cash for the year ended December 31, 2013, and used cash of $4.7 million during the year ended December 31, 2012. Investing activities during 2014, 2013 and 2012 included purchases of property, plant and equipment, proceeds from the sale of property, plant and equipment and expenditures for our catalogs. Unique to 2014 and 2012, investing activities included acquisitions net of cash acquired. Additionally, unique to 2013, investing activities included net cash proceeds from the sale of discontinued operations. In October 2014, we acquired MCS and TBSI for approximately $11.0 million and $1.7 million, net of cash acquired, respectively. In February 2012, we acquired AHN Biotechnologie GmbH ("AHN") for approximately $2.0 million. In May 2012, we acquired Modular SFC for approximately $0.5 million. All of these payments were included in "Acquisitions, net of cash acquired" under investing activities. These acquisitions were funded from our existing cash balances and borrowings under our credit facility. During 2013, $1.8 million was received from UBI Acquisition Corp. pertaining to the proceeds from the sale of discontinued operations. Proceeds from the sale of property plant and equipment in 2014 were $1.1 million, and includes the proceeds from the sale of one of our United Kingdom facilities which was formerly classified as an asset held-for-sale. During 2014, 2013 and 2012, capital expenditures were $2.0 million, $1.6 million and $1.8 million, respectively. Over the next several quarters, we expect that the pace of capital expenditures will accelerate due to the implementation of a new enterprise resource planning ("ERP") platform across all of our locations, as well as the relocation of our Denville distribution business and UK manufacturing operations to North Carolina and Holliston, MA, respectively.

Our financing activities have historically consisted of borrowings and repayments under our revolving credit facility and term loans, payments of debt issuance costs, the issuance of common stock and, unique to 2013, the transfer of cash as part of the separation and spin-off of HART. During the year ended December 31, 2014, financing activities used cash of $1.2 million, provided $0.1 million of cash for the year ended December 31, 2013, and used cash of $1.1 million during the year ended December 31, 2012. During the year ended December 31, 2014, we borrowed $2.2 million under our credit facility to fund the acquisition of TBSI, repaid $5.5 million of debt under our credit facility and term loans and ended the year with $21.5 million of borrowings. Net proceeds from the issuance of common stock for the year ended December 31, 2014 was $2.1 million, which related to the exercise of stock options and the employee stock purchase plan. During the year ended December 31, 2013, we transferred approximately $15.0 million to fund HART's operations in connection with the spin-off. Additionally, we borrowed $14.6 million and repaid $2.8 million of debt under our credit facility and term loans, and ended the year with $24.8 million of borrowings. Net proceeds from the issuance of common stock for 2013 were $3.6 million, which related to the exercise of stock options and the employee stock purchase plan. During the year ended December 31, 2013, we paid debt issuance costs of $0.3 million. During the year ended December 31, 2012, we borrowed $0.5 million and repaid $3.9 million of debt under our credit facility. Net proceeds from the issuance of common stock for 2012 were $2.3 million.

Borrowing Arrangements

On August 7, 2009, we entered into an amended and restated $20.0 million revolving credit loan agreement with Bank of America, as agent, and Bank of America and Brown Brothers Harriman & Co as lenders (the "2009 Credit Agreement"). On September 30, 2011, we entered into the First Amendment to the Amended and Restated Revolving Credit Loan Agreement (the "First Amendment") with Bank of America as agent, and Bank of America and Brown Brothers Harriman & Co as lenders. The First Amendment extended the maturity date of our credit facility to August 7, 2013 and reduced the interest rate to the London Interbank Offered Rate plus 3.0%. On October 4, 2012, we entered into the Second Amendment to the Amended and Restated Revolving Credit Loan Agreement (the "Second Amendment") with Bank of America as agent, and Bank of America and Brown Brothers Harriman & Co as lenders. The Second Amendment extended the maturity date of our credit facility to August 7, 2014.

On March 29, 2013, we entered into a Second Amended and Restated Revolving Credit Agreement (as amended, the "Credit Agreement") with Bank of America, as agent, and Bank of America and Brown Brothers Harriman & Co as lenders, that amended and restated the 2009 Credit Agreement. The Credit Agreement converted our existing outstanding revolving advances into a term loan in the principal amount of $15.0 million (the "Term Loan"), provided a revolving credit facility in the maximum principal amount of $25.0 million ("Revolving Line") and provided a delayed draw term loan of up to $15.0 million (the "DDTL") to fund our capital contributions to HART. The maximum amount available under the Credit Agreement is $50.0 million as borrowings against the DDTL in excess of $10.0 million result in a dollar for dollar reduction in the Revolving Line capacity. The Revolving Line has a maturity date of March 29, 2016, while the Term Loan and DDTL have a maturity date of March 29, 2018.

On October 31, 2013, we amended the Credit Agreement to reduce the DDTL from up to $15.0 million to up to $10.0 million and allow for an additional $5.0 million to be available for drawing as advances under the Revolving Line.

Borrowings under the Term Loan and the DDTL bear interest at a rate based on either the effective London Interbank Offered Rate (LIBOR) for certain interest periods selected by us, or a daily floating rate based on the British Bankers' Association (BBA) LIBOR as published by Reuters (or other commercially available source providing quotations of BBA LIBOR), plus in either case, a margin of 3.0%. The Revolving Line bears interest at a rate based on either the effective LIBOR for certain interest periods selected by us, or a daily floating rate based on the BBA LIBOR, plus in either case, a margin of 2.5%. We were required to fix the rate of interest on at least 50% of the Term Loan and the DDTL through the purchase of interest rate swaps. The Term Loan and DDTL each have interest payments due at the end of the applicable LIBOR period, or monthly with respect to BBA LIBOR borrowings, and principal payments due quarterly. The Revolving Line has interest payments due at the end of the applicable LIBOR period, or monthly with respect to BBA LIBOR borrowings.

At December 31, 2014, the weighted effective interest rates on the Term Loan, DDTL and Revolving Line borrowings were 3.96%, 3.55% and 2.67%, respectively. The Credit Agreement includes covenants relating to income, debt coverage and cash flow, as well as minimum working capital requirements. The Credit Agreement also contains limitations on our ability to incur additional indebtedness and requires lender approval for acquisitions funded with cash, promissory notes and/or other consideration in excess of $6.0 million and for acquisitions funded solely with equity in excess of $10.0 million. As of December 31, 2014, we were in compliance with all financial covenants contained in the Credit Agreement; we were subject to covenant and working capital borrowing restrictions, and had available borrowing capacity under the Credit Agreement of $11.8 million.

Our forecast of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement that involves risks and uncertainties, and actual results could vary as a result of a number of factors. Based on our current operations and current operating plans, we expect that our available cash, cash generated from current operations and debt capacity will be sufficient to finance current operations, any potential future acquisitions and capital expenditures for the next 12 months and beyond. This may involve incurring additional debt or raising equity capital for our business. Additional capital raising activities will dilute the ownership interests of existing stockholders to the extent we raise capital by issuing equity securities and we cannot assure you that we will be successful in raising additional capital on favorable terms or at all.

Contractual Obligations

The following schedule represents our contractual obligations for our continuing operations, excluding interest, as of December 31, 2014.

	Total	2015	2016	2017	2018	2019	2020 and Beyond
				(in thousands)			
Bank credit facility and notes payable	$ 21,450	$ 5,000	$ 9,200	$ 5,000	$ 2,250	$ -	$ -
Operating leases	14,046	2,094	1,603	1,579	1,550	1,353	5,867
Total	$ 35,496	$ 7,094	$ 10,803	$ 6,579	$ 3,800	$ 1,353	$ 5,867

We have a liability at December 31, 2014 and 2013 of $0.3 million and $0.2 million, respectively, for uncertain tax positions taken in an income tax return. We do not know the ultimate resolution of these uncertain tax positions and as such, do not know the ultimate timing of payments related to this liability. Accordingly, this amount is not included in the above table.

We have an underfunded U.K. pension liability of $4.4 million and $4.9 million as of December 31, 2014 and 2013, respectively, which is recognized as part of the "Other long term liabilities" line item in our consolidated balance sheets. Since we do not know the ultimate timing of payments related to this liability, this amount has not been included in the above table.

Critical Accounting Policies

We believe that our critical accounting policies are as follows:

- revenue recognition;
- accounting for income taxes;
- inventory;
- valuation of identifiable intangible assets in business combinations;
- valuation of long-lived and intangible assets and goodwill; and
- stock-based compensation.

Revenue recognition. We follow the provisions of FASB ASC 605, “Revenue Recognition”. We recognize revenue of products when persuasive evidence of a sales arrangement exists, the price to the buyer is fixed or determinable, delivery has occurred, and collectibility of the sales price is reasonably assured. Sales of some of our products include provisions to provide additional services such as installation and training. Revenues on these products are recognized when the additional services have been performed. Service agreements on our equipment are typically sold separately from the sale of the equipment. Revenues on these service agreements are recognized ratably over the life of the agreement, typically one year, in accordance with the provisions of FASB ASC 605-20, “Revenue Recognition—Services”.

We account for shipping and handling fees and costs in accordance with the provisions of FASB ASC 605-45-45, “Revenue Recognition—Principal Agent Considerations”, which requires all amounts charged to customers for shipping and handling to be classified as revenues. Our costs incurred related to shipping and handling are classified as cost of product revenues. Warranties and product returns are estimated and accrued for at the time sales are recorded. We have no obligations to customers after the date products are shipped or installed, if applicable, other than pursuant to warranty obligations and service or maintenance contracts. We provide for the estimated amount of future returns upon shipment of products or installation, if applicable, based on historical experience. Historically, product returns and warranty costs have not been significant, and they have been within our expectations and the provisions established, however, there is no assurance that we will continue to experience the same return rates and warranty repair costs that we have in the past. Any significant increase in product return rates or a significant increase in the cost to repair our products could have a material adverse impact on our operating results for the period or periods in which such returns or increased costs materialize.

We make estimates evaluating our allowance for doubtful accounts. On an ongoing basis, we monitor collections and payments from our customers and maintain a provision for estimated credit losses based upon our historical experience and any specific customer collection issues that we have identified. Historically, such credit losses have not been significant, and they have been within our expectations and the provisions established, however, there is no assurance that we will continue to experience the same credit loss rates that we have in the past. A significant change in the liquidity or financial position of our customers could have a material adverse impact on the collectability of our accounts receivable and our future operating results.

Accounting for income taxes. We determine our annual income tax provision in each of the jurisdictions in which we operate. This involves determining our current and deferred income tax expense that reflects accounting for differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. The future tax consequences attributable to these differences result in deferred tax assets and liabilities, which are included in our consolidated balance sheets. We assess the recoverability of the deferred tax assets by considering whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. To the extent we believe that recovery does not meet this "more likely than not" standard as required in FASB ASC 740, "Income Taxes", we must establish a valuation allowance.

Management's judgment and estimates are required in determining our income tax provision, deferred tax assets and liabilities and any valuation allowance recorded against deferred tax assets. We review the recoverability of deferred tax assets during each reporting period by reviewing estimates of future taxable income, future reversals of existing taxable temporary differences, and tax planning strategies that would, if necessary, be implemented to realize the benefit of a deferred tax asset before expiration. At December 31, 2014, we have a valuation allowance of $2.4 million related to deferred tax assets in the U.S. and certain foreign and state jurisdictions.

We assess tax positions taken on tax returns, including recognition of potential interest and penalties, in accordance with the recognition thresholds and measurement attributes outlined in FASB ASC 740. Interest and penalties recognized, if any, would be classified as a component of income tax expense.

Inventory. We value our inventory at the lower of the actual cost to purchase (first-in, first-out method) and/or manufacture the inventory or the current estimated market value of the inventory. We regularly review inventory quantities on hand and record a provision to write down excess and obsolete inventory to its estimated net realizable value if less than cost, based primarily on historical inventory usage and estimated forecast of product demand. Since forecasted product demand quite often is a function of previous and current demand, a significant decrease in demand could result in an increase in the charges for excess inventory quantities on hand. In addition, our industry is subject to technological change and new product development, and technological advances could result in an increase in the amount of obsolete inventory quantities on hand. Therefore, any significant unanticipated changes in demand or technological developments could have a significant adverse impact on the value of our inventory and our reported operating results.

Valuation of identifiable intangible assets acquired in business combinations. The determination of the fair value of intangible assets, which represents a significant portion of the purchase price in our acquisitions, requires the use of significant judgment with regard to (i) the fair value; and (ii) whether such intangibles are amortizable or not amortizable and, if the former, the period and the method by which the intangibles asset will be amortized. We estimate the fair value of acquisition-related intangible assets principally based on projections of cash flows that will arise from identifiable assets of acquired businesses. The projected cash flows are discounted to determine the present value of the assets at the dates of acquisitions. At December 31, 2014, amortizable intangible assets include existing technology, trade names, distribution agreements, customer relationships and patents. These amortizable intangible assets are amortized on a straight-line basis over 7 to 15 years, 10 to 15 years, 4 to 5 years, 5 to 15 years and 5 to 15 years, respectively.

Valuation of long-lived and intangible assets. In accordance with the provisions of FASB ASC 360, *"Property, Plant and Equipment"*, we assess the value of identifiable intangibles with finite lives and long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors we consider important which could trigger an impairment review include the following: significant underperformance relative to expected historical or projected future operating results; significant changes in the manner of our use of the acquired assets or the strategy for our overall business; significant negative industry or economic trends; significant changes in who our competitors are and what they do; significant changes in our relationship with our distributors; significant decline in our stock price for a sustained period; and our market capitalization relative to net book value.

If we were to determine that the value of long-lived assets and identifiable intangible assets with finite lives was not recoverable based on the existence of one or more of the aforementioned factors, then the recoverability of those assets to be held and used would be measured by a comparison of the carrying amount of those assets to undiscounted future net cash flows before tax effects expected to be generated by those assets. If such assets are considered to be impaired, the impairment to be recognized would be measured by the amount by which the carrying value of the assets exceeds the fair value of the assets.

Goodwill and Other Intangible Assets. FASB ASC 350, *"Intangibles-Goodwill and Others"* addresses financial accounting and reporting for acquired goodwill and other intangible assets. Among other things, FASB ASC 350 requires that goodwill and intangible assets with indefinite useful lives no longer be amortized, but rather tested annually for impairment or more frequently if events or circumstances indicate that there may be impairment. Goodwill is also subject to an annual impairment test, or more frequently, if indicators of potential impairment arise. ASU 2011-08 intends to simplify goodwill impairment testing by permitting an assessment of qualitative factors to determine when events and circumstances lead to the conclusion that it is necessary to perform the two-step goodwill impairment test required under ASC 350. The two-step goodwill impairment test consists of a comparison of the fair value of our reporting units with their carrying amount. If the carrying amount exceeds its fair value, we are required to perform the second step of the impairment test, as this is an indication that goodwill may be impaired. The impairment loss is measured by comparing the implied fair value of the reporting unit's goodwill with its carrying amount. If the carrying amount exceeds the implied fair value, an impairment loss shall be recognized in an amount equal to the excess. After an impairment loss is recognized, the adjusted carrying amount of the intangible asset shall be its new accounting basis. Subsequent reversal of a previously recognized impairment loss is prohibited. For unamortizable intangible assets, if the carrying amount were to exceed the fair value of the asset we would write down the unamortizable intangible asset to fair value.

For the purpose of its goodwill analysis, and following the spin-off of HART, we have one reporting unit. We conducted our annual impairment analysis in the fourth quarter of fiscal year 2014. The determination of the fair value of the reporting unit requires us to make a significant estimate on control premiums appropriate of industries in which we compete. We compared our carrying value to our overall market capitalization.

The results of our test for goodwill impairment showed that the estimated fair value of our business substantially exceeded its carrying value. We concluded that none of our goodwill was impaired. We also concluded that the fair value of the unamortized intangible assets significantly exceeds the carrying amounts.

Stock-based compensation. We account for stock-based payment awards in accordance with the provisions of FASB ASC 718, *"Compensation—Stock Compensation"*, which requires us to recognize compensation expense for all stock-based payment awards made to employees and directors including stock options, restricted stock units and employee stock purchases ("employee stock purchases") related to the Employee Stock Purchase Plan ("ESPP"). We issue new shares upon stock option exercises, upon the vesting of restricted stock units and under our ESPP.

FASB ASC 718 requires companies to estimate the fair value of stock-based payment awards on the date of grant using an option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods in our consolidated statement of operations. Stock-based compensation expense has been reduced for estimated forfeitures. FASB ASC 718 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

We value stock-based payment awards, except restricted stock awards, at grant date using the Black-Scholes option-pricing model. Our determination of fair value of stock-based payment awards on the date of grant using an option-pricing model is affected by our stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to our expected stock price volatility over the term of the awards and actual and projected stock option exercise behaviors.

The fair value of restricted stock units are based on the market price of our common stock on the date of grant and are recorded as compensation expense ratably over the applicable service period, which ranges from one to four years. Unvested restricted stock units are forfeited in the event of termination of employment or engagement with our Company.

We record stock compensation expense on a straight-line basis over the requisite service period for all awards granted.

Impact of Foreign Currencies

Our international operations in some instances operate in a natural hedge as we sell our products in many countries and a substantial portion of our revenues, costs and expenses are denominated in foreign currencies, especially the British pound sterling, the Euro and the Swedish krona.

During 2014, the U.S dollar's weakening in relation to those currencies resulted in a favorable translation effect on our consolidated revenues and a favorable effect on our earnings growth. Changes in foreign currency exchange rates resulted in a favorable effect on revenues of $1.0 million and an unfavorable effect on expenses of $0.8 million. During 2013, the U.S dollar's weakening in relation to those currencies resulted in a favorable translation effect on our consolidated revenues and a neutral

effect on our earnings growth. Changes in foreign currency exchange rates resulted in a favorable effect on revenues of $0.2 million and negative effect on expenses of $0.2 million. During 2012, the U.S dollar's strengthening in relation to those currencies resulted in an unfavorable translation effect on our consolidated revenues and earnings growth. Changes in foreign currency exchange rates resulted in a negative effect on revenues of $1.2 million and positive effect on expenses of $1.1 million.

The loss associated with the translation of foreign equity into U.S. dollars included as a component of comprehensive income, was approximately $5.9 million for the year ended December 31, 2014, compared to gains of $1.6 million and $1.9 million for the years ended December 31, 2013 and 2012, respectively. In addition, currency exchange rate fluctuations included as a component of net income resulted in approximately $0.2 million, $0.1 million and $0.1 million in foreign currency losses during the years ended December 31, 2014, 2013 and 2012, respectively.

The U.S. dollar was stronger on December 31, 2014 against the British pound, the Euro and the Swedish krona compared with the rates at December 31, 2013. The stronger U.S. dollar has caused our foreign net assets to translate to a lower value, stated in U.S. dollars, which has a negative effect on our Accumulated Other Comprehensive Income, a component of Stockholders' Equity. At December 31, 2013, our Stockholders' Equity was lower by $5.9 million as compared to the value at December 31, 2013, due to the translation of foreign net assets based on a stronger dollar.

The U.S. dollar was weaker on December 31, 2013 against the British pound, the Euro and the Swedish krona compared with the rates at December 31, 2012. The weaker U.S. dollar has caused our foreign net assets to translate to a higher value, stated in U.S. dollars, which has a positive effect on our Accumulated Other Comprehensive Income, a component of Stockholders' Equity. At December 31, 2013, our Stockholders' Equity was higher by $1.6 million as compared to the value at December 31, 2012, due to the translation of foreign net assets based on a weaker dollar.

The U.S. dollar was weaker on December 31, 2012 against the British pound, the Euro and the Swedish krona compared with the rates at December 31, 2011. The weaker U.S. dollar caused our foreign net assets to translate to a higher value, stated in U.S. dollars, which had a positive effect on our Accumulated Other Comprehensive Income, a component of Stockholders' Equity. At December 31, 2012, our Stockholders' Equity was higher by $1.9 million as compared to the value at December 31, 2011, due to the translation of foreign net assets based on a weaker dollar.

Subsequent to the end of 2014 and through March 6, 2015, the U.S. dollar strengthened approximately 1.8%, 9.1% and 6.5% against the British pound, the Euro and the Swedish krona, respectively. Approximately 38% of our revenues are derived from business transacted in British pounds, Euros or Swedish kronas. If the U.S. dollar strengthens against these currencies, our earnings and cash flows, stated in U.S. dollars, will be affected negatively.

Recently Issued Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2014-09, *"Revenue from Contracts with Customers,"* a new accounting standard that provides for a comprehensive model to use in the accounting for revenue arising from contracts with customers that will replace most existing revenue recognition guidance in U.S. GAAP. Under this standard, revenue will be recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. This standard will be effective as of the beginning of our 2017 fiscal year. We are assessing the new standard and have not yet determined the impact to our consolidated financial statements.

Impact of Inflation

We believe that our revenues and results of operations have not been significantly impacted by inflation during the past three years.

Item 7A. ***Quantitative and Qualitative Disclosures about Market Risk.***

The majority of our manufacturing and testing of products occurs in our facilities in the United States, the United Kingdom, Germany, Sweden and Spain. We sell our products globally through our direct catalog sales, our websites, direct sales force and indirect distributor channels. As a result, our financial results are affected by factors such as changes in foreign currency exchange rates and weak economic conditions in foreign markets.

We collect amounts representing a substantial portion of our revenues and pay amounts representing a substantial portion of our operating expenses in foreign currencies. As a result, changes in currency exchange rates from time to time may affect our operating results.

We are exposed to market risk from changes in interest rates primarily through our financing activities. As of December 31, 2014, we had $21.5 million outstanding under our Credit Agreement. The purpose of the Credit Agreement was to convert our existing outstanding revolving advances into a Term Loan in the principal amount of $15.0 million, provide a Revolving Line facility in the maximum principal amount of $25.0 million, and provide a DDTL of up to $10.0 million, reduced from $15.0 million as discussed below, to fund capital contributions to our subsidiary, HART. The Revolving Line has a maturity date of March 29, 2016, while the Term Loan and DDTL have a maturity date of March 29, 2018. On October 31, 2013, we amended the Credit Agreement to reduce the DDTL from up to $15.0 million to up to $10.0 million and allow for an additional $5.0 million to be available for drawing as advances under the Revolving Line.

Borrowings under the Term Loan and the DDTL shall bear interest at a rate based on either the effective London Interbank Offered Rate (LIBOR) for certain interest periods selected by us, or a daily floating rate based on the BBA LIBOR as published by Reuters (or other commercially available source providing quotations of BBA LIBOR), plus in either case, a margin of 3.0%. The Revolving Line shall bear interest at a rate based on either the effective LIBOR for certain interest periods selected by us, or a daily floating rate based on the BBA LIBOR, plus in either case, a margin of 2.5%. We were required to fix the rate of interest on at least 50% of the Term Loan and the DDTL through the purchase of an interest rate swap. The Term Loan and DDTL each have interest payments due at the end of the applicable LIBOR period, or monthly with respect to BBA LIBOR borrowings, and principal payments are due quarterly. The Revolving Line has interest payments due at the end of the applicable LIBOR period, or monthly with respect to BBA LIBOR borrowings. Effective June 5, 2013, we entered into an interest rate swap contract with an original notional amount of $15.0 million and a maturity date of March 29, 2018 in order to hedge the risk of changes in the effective benchmark interest rate (LIBOR) associated with our Term Loan. The swap contract converted specific variable-rate debt into fixed-rate debt and fixed LIBOR associated with the Term Loan at 0.96% plus a bank margin of 3.0%. Effective November 29, 2013, we entered into a second interest rate swap contract with an original notional amount of $5.0 million and a maturity date of March 29, 2018 in order to hedge the risk of changes in LIBOR associated with a portion of our DDTL. The swap contract converted specific variable-rate debt into fixed rate debt and fixed LIBOR associated with half of the DDTL amount at 0.93% plus a bank margin of 3.0%. The notional amount of our derivative instruments as of December 31, 2014 was $13.5 million. These swap contracts were associated with reducing or eliminating interest rate risk and were designated as cash flow hedge instruments in accordance with ASC 815. We use interest-rate-related derivative instruments to manage our exposure related to changes in interest rates on our variable-rate debt instruments. We do not enter into derivative instruments for any purpose other than cash flow hedging and we do not speculate using derivative instruments.

As of December 31, 2014, the weighted effective interest rates on our Term Loan , DDTL and Revolving Line borrowings were 3.96%, 3.55% and 2.67%, respectively. Assuming no other changes which would affect the margin of the interest rate under our Term Loan, DDTL and Revolving Line, the effect of interest rate fluctuations on outstanding borrowings under our Credit Agreement as of December 31, 2014 over the next twelve months is quantified and summarized as follows:

If compared to the rate as of December 31, 2014	**Interest expense increase**
	(in thousands)
Interest rates increase by 1%	$ 80
Interest rates increase by 2%	$ 159

Item 8. ***Financial Statements and Supplementary Data.***

The information required by this item is contained in the consolidated financial statements filed as part of this Annual Report on Form 10-K are listed under Item 15 of Part IV below.

Item 9. ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.***

None.

Item 9A. ***Controls and Procedures.***

This Report includes the certifications of our Chief Executive Officer and Chief Financial Officer required by Rule 13a-14 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). See Exhibits 31.1 and 31.2. This Item 9A includes information concerning the controls and control evaluations referred to in those certifications.

(a) Evaluation of Disclosure Controls and Procedures

Disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) are designed to ensure that information required to be disclosed in reports filed or submitted under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms and that such information is accumulated and communicated to management, including the Chief Executive Officer and the Chief Financial Officer, to allow timely decisions regarding required disclosures.

In connection with the preparation of this Annual Report on the Form 10-K, our management, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as of December 31, 2014. Our disclosure controls and procedures are designed to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and our management necessarily was required to apply its judgment in evaluating and implementing our disclosure controls and procedures. Based upon the evaluation described above, our Chief Executive Officer and Chief Financial Officer have concluded that they believe that our disclosure controls and procedures were effective, as of the end of the period covered by this report, in providing reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosures, and is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms.

(b) Management's Annual Report on Internal Control Over Financial Reporting

Our management, under the supervision of the Chief Executive Officer and the Chief Financial Officer, is responsible for establishing and maintaining an adequate system of internal control over financial reporting. Internal control over financial reporting (as defined in Rules 13a-15(f) and 15d(f) under the Exchange Act) is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP").

A company's internal control over financial reporting includes those policies and procedures that (a) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (b) provide reasonable assurance that transactions are recorded as necessary to permit preparation of consolidated financial statements in accordance with U.S. GAAP, (c) provide reasonable assurance that receipts and expenditures are being made only in accordance with appropriate authorization of management and the board of directors, and (d) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In connection with the preparation of this report, our management conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2014 based on the criteria established in *Internal Control—Integrated Framework (1992)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). As a result of that evaluation, management has concluded that our internal control over financial reporting was effective as of December 31, 2014.

Management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2014, MCS's and TBSI's internal control over financial reporting associated with total assets of $15.4 million (of which $9.9 million represents goodwill and intangibles included within the scope of the assessment) and total revenues of $2.5 million in the consolidated financial statements of the Company as of and for the year ended December 31, 2014.

The effectiveness of our internal control over financial reporting as of December 31, 2014 has also been audited by KPMG LLP, our independent registered public accounting firm, as stated in their report, which is included below in Item 9A(d).

(c) Changes in Internal Controls Over Financial Reporting

Our management, with the participation of the Chief Executive Officer and the Chief Financial Officer, has evaluated whether any change in our internal control over financial reporting occurred during the fourth quarter ended December 31, 2014. Based on that evaluation, management concluded that there were no changes in our internal controls over financial reporting during the quarter ended December 31, 2014 that have materially affected, or are reasonably likely to materially affect our internal controls over financial reporting.

(d) Report of Independent Registered Public Accounting Firm

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
Harvard Bioscience, Inc.:

We have audited Harvard Bioscience, Inc.'s internal control over financial reporting as of December 31, 2014, based on criteria established in *Internal Control – Integrated Framework (1992)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Harvard Bioscience, Inc.'s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying "Management's Annual Report on Internal Control Over Financial Reporting." Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Harvard Bioscience, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2014, based on criteria established in *Internal Control – Integrated Framework (1992)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Harvard Bioscience, Inc. acquired MCS and TBSI during 2014, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2014, MCS's and TBSI's internal control over financial reporting associated with total assets of $15.4 million (of which $9.9 million represents goodwill and intangibles included within the scope of the assessment) and total revenues of $2.5 million in the consolidated financial statements of the Company as of and for the year ended December 31, 2014. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of MCS and TBSI.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Harvard Bioscience, Inc. and subsidiaries as of December 31, 2014 and 2013, and the related consolidated statements of operations, comprehensive (loss) income, stockholders' equity and cash flows for each of the years in the three-year period ended December 31, 2014, and our report dated March 12, 2015 expressed an unqualified opinion on those consolidated financial statements.

/s/ KPMG LLP

Boston, Massachusetts
March 12, 2015

Item 9B. Other Information.

None.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance.***

Incorporated by reference to our definitive Proxy Statement to be filed pursuant to Regulation 14A under the Exchange Act, in connection with our 2015 Annual Meeting of Stockholders. Information concerning executive officers of our Company is included in Part I of this Annual Report on Form 10-K as Item 1. Business- Executive Officers of the Registrant and incorporated herein by reference.

Item 11. ***Executive Compensation.***

Incorporated by reference to our definitive Proxy Statement to be filed pursuant to Regulation 14A under the Exchange Act in connection with our 2015 Annual Meeting of Stockholders.

Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.***

Incorporated by reference to our definitive Proxy Statement to be filed pursuant to Regulation 14A under the Exchange Act in connection with our 2015 Annual Meeting of Stockholders.

Item 13. ***Certain Relationships and Related Transactions, and Director Independence.***

Incorporated by reference to our definitive Proxy Statement to be filed pursuant to Regulation 14A under the Exchange Act in connection with our 2015 Annual Meeting of Stockholders.

Item 14. ***Principal Accounting Fees and Services.***

Incorporated by reference to our definitive Proxy Statement to be filed pursuant to Regulation 14A under the Exchange Act in connection with our 2015 Annual Meeting of Stockholders.

Item 15. ***Exhibits, Financial Statement Schedules.***

(a) Documents Filed. The following documents are filed as part of this Annual Report on Form 10-K or incorporated by reference as indicated:

1 Financial Statements. The consolidated financial statements of Harvard Bioscience, Inc. and its subsidiaries filed under this Item 15:

2 Exhibits and Exhibit Index. See the Exhibit Index included as the last part of this Annual Report on Form 10-K, which is incorporated herein by reference.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

HARVARD BIOSCIENCE, INC.

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
Harvard Bioscience, Inc.:

We have audited the accompanying consolidated balance sheets of Harvard Bioscience, Inc. and subsidiaries (the Company) as of December 31, 2014 and 2013, and the related consolidated statements of operations, comprehensive (loss) income, stockholders' equity and cash flows for each of the years in the three-year period ended December 31, 2014. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Harvard Bioscience, Inc. as of December 31, 2014 and 2013, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2014, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Harvard Bioscience, Inc.'s internal control over financial reporting as of December 31, 2014, based on criteria established in *Internal Control – Integrated Framework (1992)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated March 12, 2015 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

/s/ KPMG LLP

Boston, Massachusetts
March 12, 2015

HARVARD BIOSCIENCE, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share data)

	December 31, 2014	December 31, 2013
Assets		
Current assets:		
Cash and cash equivalents	$ 14,134	$ 25,771
Accounts receivable, net of allowance for doubtful accounts of $328 and $358, respectively	16,141	13,884
Inventories	20,531	15,777
Deferred income tax assets – current	1,515	1,547
Other receivables and other assets	4,742	3,771
Total current assets	57,063	60,750
Property, plant and equipment, net	5,190	4,375
Deferred income tax assets - non-current	11,056	13,116
Amortizable intangible assets, net	21,153	19,009
Goodwill	39,822	36,605
Indefinite lived intangible assets	1,252	1,289
Other assets	380	316
Total assets	$ 135,916	$ 135,460
Liabilities and Stockholders' Equity		
Current liabilities:		
Current portion, long-term debt	$ 5,000	$ 5,000
Accounts payable	6,294	4,682
Deferred revenue	655	640
Accrued income taxes	554	99
Accrued expenses	4,452	5,078
Deferred income tax liabilities – current	121	-
Other liabilities – current	1,023	586
Total current liabilities	18,099	16,085
Long-term debt, less current installments	16,450	19,750
Deferred income tax liabilities - non-current	1,325	160
Other long term liabilities	4,574	4,980
Total liabilities	40,448	40,975
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, par value $0.01 per share, 5,000,000 shares authorized	-	-
Common stock, par value $0.01 per share, 80,000,000 shares authorized; 40,308,763 and 39,384,974 shares issued and 32,563,256 and 31,639,467 shares outstanding, respectively	397	390
Additional paid-in-capital	206,656	202,446
Accumulated deficit	(92,684)	(95,039)
Accumulated other comprehensive loss	(8,233)	(2,644)
Treasury stock at cost, 7,745,507 common shares	(10,668)	(10,668)
Total stockholders' equity	95,468	94,485
Total liabilities and stockholders' equity	$ 135,916	$ 135,460

See accompanying notes to consolidated financial statements.

HARVARD BIOSCIENCE, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)

	Year Ended December 31,		
	2014	**2013**	**2012**
Revenues	$ 108,663	$ 105,171	$ 111,171
Cost of revenues (exclusive of items shown separately below)	59,319	57,475	58,831
Gross profit	49,344	47,696	52,340
Sales and marketing expenses	18,225	17,330	18,287
General and administrative expenses	16,826	17,887	18,121
Research and development expenses	4,880	4,154	4,344
Restructuring charges	1,027	2,150	310
Amortization of intangible assets	2,578	2,590	2,752
HART transaction costs	-	2,048	696
Gain on sale of assets, net	(810)	-	-
Total operating expenses, net	42,726	46,159	44,510
Operating income	6,618	1,537	7,830
Other (expense) income:			
Foreign exchange	(150)	(139)	(113)
Interest expense	(990)	(955)	(584)
Interest income	74	43	46
Other expense, net	(1,135)	(51)	(287)
Other expense, net	(2,201)	(1,102)	(938)
Income from continuing operations before income taxes	4,417	435	6,892
Income tax expense (benefit)	2,062	(288)	2,398
Income from continuing operations	2,355	723	4,494
Discontinued operations:			
Loss from discontinued operations, net of tax	-	(2,553)	(2,124)
Net income (loss)	$ 2,355	$ (1,830)	$ 2,370
Earnings (loss) per share:			
Basic earnings per common share from continuing operations	$ 0.07	$ 0.02	$ 0.16
Discontinued operations	-	(0.08)	(0.07)
Basic earnings (loss) per common share	$ 0.07	$ (0.06)	$ 0.09
Diluted earnings per common share from continuing operations	$ 0.07	$ 0.02	$ 0.15
Discontinued operations	-	(0.08)	(0.07)
Diluted earnings (loss) per common share	$ 0.07	$ (0.06)	$ 0.08
Weighted average common shares:			
Basic	32,171	30,384	28,799
Diluted	33,237	31,914	29,793

See accompanying notes to consolidated financial statements.

HARVARD BIOSCIENCE, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME
(In thousands)

	Year Ended December 31,		
	2014	**2013**	**2012**
Net income (loss)	$ 2,355	$ (1,830)	$ 2,370
Other comprehensive (loss) income:			
Foreign currency translation adjustments	(5,941)	1,573	1,863
Derivatives qualifying as hedges, net of tax:			
Loss on derivative instruments designated and qualifying as cash flow hedges	(99)	(116)	-
Amounts reclassified from accumulated other comprehensive income to net income (loss)	130	67	-
Derivatives qualifying as hedges, net of tax	31	(49)	-
Defined benefit pension plans, net of tax:			
Amortization of net losses included in net periodic pension costs, net of tax expense of $52, $62 and $57 in 2014, 2013 and 2012, respectively	207	243	191
Net gain (loss), net of tax expense (benefits) of $29, $115 and ($357) in 2014, 2013 and 2012, respectively	114	452	(1,195)
Defined benefit pension plans, net of tax	321	695	(1,004)
Other comprehensive (loss) income	(5,589)	2,219	859
Comprehensive (loss) income	$ (3,234)	$ 389	$ 3,229

See accompanying notes to consolidated financial statements.

HARVARD BIOSCIENCE, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)

	Number of Shares Issued	Common Stock	Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total Stockholders' Equity
Balance at December 31, 2011	36,289	$ 362	$ 191,157	$ (79,630)	$ (5,722)	$ (10,668)	$ 95,499
Stock option exercises	648	7	2,110	-	-	-	2,117
Stock purchase plan	60	1	191	-	-	-	192
Vesting of restricted stock units	164	-	-	-	-	-	-
Shares withheld for taxes	(37)	-	(145)	-	-	-	(145)
Stock compensation expense	-	-	3,321	-	-	-	3,321
Net income	-	-	-	2,370	-	-	2,370
Other comprehensive income	-	-	-	-	859	-	859
Balance at December 31, 2012	37,124	370	196,634	(77,260)	(4,863)	(10,668)	104,213
Stock option exercises	2,135	20	4,031	-	-	-	4,051
Stock purchase plan	57	-	194	-	-	-	194
Vesting of restricted stock units	282	-	-	-	-	-	-
Shares withheld for taxes	(213)	-	(1,083)	-	-	-	(1,083)
Distribution to HART	-	-	-	(15,949)	-	-	(15,949)
Stock compensation expense	-	-	2,670	-	-	-	2,670
Net loss	-	-	-	(1,830)	-	-	(1,830)
Other comprehensive income	-	-	-	-	2,219	-	2,219
Balance at December 31, 2013	39,385	390	202,446	(95,039)	(2,644)	(10,668)	94,485
Stock option exercises	695	7	2,153	-	-	-	2,160
Stock purchase plan	58	-	228	-	-	-	228
Vesting of restricted stock units	233	-	-	-	-	-	-
Shares withheld for taxes	(62)	-	(327)	-	-	-	(327)
Stock compensation expense	-	-	2,156	-	-	-	2,156
Net income	-	-	-	2,355	-	-	2,355
Other comprehensive loss	-	-	-	-	(5,589)	-	(5,589)
Balance at December 31, 2014	40,309	$ 397	$ 206,656	$ (92,684)	$ (8,233)	$ (10,668)	$ 95,468

See accompanying notes to consolidated financial statements.

HARVARD BIOSCIENCE, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,		
	2014	**2013**	**2012**
Cash flows from operating activities:			
Net income (loss)	$ 2,355	$ (1,830)	$ 2,370
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Stock compensation expense	2,156	2,670	3,321
Depreciation	1,253	1,298	1,270
Earn-out related to discontinued operations	-	(440)	(1,344)
Gain on sale of assets, net	(810)	-	(24)
Non-cash restructuring (credit)	(120)	(46)	(13)
Amortization of catalog costs	47	101	184
(Recovery) provision for allowance for doubtful accounts	(67)	172	(31)
Amortization of intangible assets	2,578	2,590	2,752
Amortization of deferred financing costs	61	46	52
Deferred income taxes	1,412	(2,441)	(731)
Changes in operating assets and liabilities:			
(Increase) decrease in accounts receivable	(735)	436	1,154
(Increase) decrease in inventories	(3,056)	1,921	1,174
Increase in other receivables and other assets	(370)	(1,020)	(925)
Increase (decrease) in trade accounts payable	1,069	(41)	(905)
(Decrease) increase in accrued income taxes	(269)	323	213
(Decrease) increase in accrued expenses	(345)	847	(485)
Increase (decrease) in deferred revenue	28	146	(48)
(Decrease) increase in other liabilities	(836)	(672)	78
Net cash provided by operating activities	4,351	4,060	8,062
Cash flows (used in) provided by investing activities:			
Additions to property, plant and equipment	(2,005)	(1,622)	(1,769)
Additions to catalog costs	-	(57)	(62)
Proceeds from sale of discontinued operations	-	1,784	-
Proceeds from sales of property, plant and equipment	1,141	66	33
Acquisitions, net of cash acquired	(12,653)	-	(2,878)
Net cash (used in) provided by investing activities	(13,517)	171	(4,676)
Cash flows (used in) provided by financing activities:			
Proceeds from issuance of debt	2,200	14,550	500
Repayments of debt	(5,500)	(2,750)	(3,850)
Transfer of cash and cash equivalents to HART	-	(15,041)	-
Payments of debt issuance costs	-	(312)	-
Net proceeds from issuance of common stock	2,066	3,621	2,287
Net cash (used in) provided by financing activities	(1,234)	68	(1,063)
Effect of exchange rate changes on cash	(1,237)	791	442
(Decrease) increase in cash and cash equivalents	(11,637)	5,090	2,765
Cash and cash equivalents at the beginning of period	25,771	20,681	17,916
Cash and cash equivalents at the end of period	$ 14,134	$ 25,771	20,681
Supplemental disclosures of cash flow information:			
Cash paid for interest	$ 997	$ 892	577
Cash paid for income taxes, net of refunds	$ 843	$ 1,479	1,519

See accompanying notes to consolidated financial statements.

HARVARD BIOSCIENCE, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization

Harvard Bioscience, Inc. ("Harvard Bioscience" or "the Company") is a global developer, manufacturer and marketer of a broad range of scientific instruments, systems and lab consumables used to advance life science for basic research, drug discovery, clinical and environmental testing. The Company's products are sold to thousands of researchers in over 100 countries through its global sales organization, catalogs, websites, and through distributors including GE Healthcare, Thermo Fisher Scientific Inc., VWR and other specialized distributors. The Company has sales and manufacturing operations in the United States, the United Kingdom, Germany, Sweden, Spain, France, Canada and China. .

2. Summary of Significant Accounting Policies

(a) Principles of Consolidation

The consolidated financial statements include the accounts of Harvard Bioscience, Inc. and its wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

(b) Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires the use of management estimates. Such estimates include the determination and establishment of certain accruals and provisions, including those for inventory obsolescence, catalog cost amortization periods, income tax and reserves for bad debts. In addition, certain estimates are required in order to determine the value of assets and liabilities associated with acquisitions. Estimates are also required to evaluate the value and recoverability of existing long-lived and intangible assets, including goodwill. On an ongoing basis, the Company reviews its estimates based upon currently available information. Actual results could differ materially from those estimates.

(c) Cash and Cash Equivalents

For purposes of the consolidated balance sheets and statements of cash flows, the Company considers all highly liquid instruments with original maturities of three months or less to be cash equivalents.

(d) Allowance for Doubtful Accounts

Allowance for doubtful accounts is based on the Company's assessment of collectability of customer accounts. The Company regularly reviews the allowance by considering factors such as historical experience, credit quality, age of the accounts receivable balances and other factors that may affect a customer's ability to pay.

(e) Inventories

The Company values its inventories at the lower of the actual cost to purchase (first-in, first-out method) and/or manufacture the inventories or the current estimated market value of the inventories. The Company regularly reviews inventory quantities on hand and records a provision to write down excess and obsolete inventories to its estimated net realizable value if less than cost, based primarily on historical inventory usage and estimated forecast of product demand.

(f) Property, Plant and Equipment

Property, plant and equipment are stated at cost and depreciated using the straight-line method over the estimated useful lives of the assets as follows:

Buildings	40	years
Machinery and equipment	3 - 10	years
Computer equipment and software	3 - 7	years
Furniture and fixtures	5 - 10	years
Automobiles	3 - 6	years

Property and equipment held under capital leases and leasehold improvements are amortized using the straight line method over the shorter of the lease term or estimated useful life of the asset.

(g) Catalog Costs

Significant costs of product catalog design, development and production are capitalized and amortized over the expected useful life of the catalog (usually one to three years).

(h) Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to be applied to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

The Company recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is more than 50% likely of being realized. Changes in recognition are reflected in the period in which the judgement occurs.

(i) Foreign Currency Translation

The functional currency of the Company's foreign subsidiaries is generally their local currency. All assets and liabilities of its foreign subsidiaries are translated at exchange rates in effect at period-end. Income and expenses are translated at rates which approximate those in effect on the transaction dates. The resulting translation adjustment is recorded as a separate component of stockholders' equity in accumulated other comprehensive income in the consolidated balance sheets. Gains and losses resulting from foreign currency transactions are included in net income.

(j) Earnings per Share

Basic earnings per share is computed by dividing net income by the weighted average number of shares of common stock outstanding during the periods presented. The computation of diluted earnings per share is similar to the computation of basic earnings per share, except that the denominator is increased for the assumed exercise of dilutive options and other potentially dilutive securities using the treasury stock method unless the effect is antidilutive. Since the Company is reporting discontinued operations, it used income from continuing operations as the control number in determining whether those potential dilutive securities are dilutive or antidilutive.

(k) Comprehensive Income

The Company follows the provisions of Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 220, "Comprehensive Income". FASB ASC 220 requires companies to report all changes in equity during a period, resulting from net income (loss) and transactions from non-owner sources, in a financial statement in the period in which they are recognized. The Company has chosen to disclose comprehensive income, which encompasses net income (loss), foreign currency translation adjustments, gains and losses on derivatives, the underfunded status of its pension plans, and pension minimum additional liability adjustments, net of tax, in the consolidated statements of comprehensive (loss) income.

(l) Revenue Recognition

The Company follows the provisions of FASB ASC 605, "Revenue Recognition". The Company recognizes product revenue when persuasive evidence of a sales arrangement exists, the price to the buyer is fixed or determinable, delivery has occurred, and collectibility of the sales price is reasonably assured. Sales of some of its products include provisions to provide additional services such as installation and training. Revenues on these products are recognized when the additional services have been performed. Service agreements on its equipment are typically sold separately from the sale of the equipment. Revenues on these service agreements are recognized ratably over the life of the agreement, typically one year, in accordance with the provisions of FASB ASC 605-20, "Revenue Recognition—Services".

The Company accounts for shipping and handling fees and costs in accordance with the provisions of FASB ASC 605-45-45, "Revenue Recognition—Principal Agent Considerations", which requires all amounts charged to customers for shipping and handling to be classified as revenues. The costs incurred related to shipping and handling is classified as cost of product revenues. Warranties and product returns are estimated and accrued for at the time sales are recorded. The Company has no obligations to customers after the date products are shipped or installed, if applicable, other than pursuant to warranty obligations and service or maintenance contracts. The Company provides for the estimated amount of future returns upon shipment of products or installation, if applicable, based on historical experience.

(m) Valuation of Identifiable Intangible Assets Acquired in Business Combinations

The determination of the fair value of intangible assets, which represents a significant portion of the purchase price in the Company's acquisitions, requires the use of significant judgment with regard to (i) the fair value; and (ii) whether such intangibles are amortizable or not amortizable and, if the former, the period and the method by which the intangibles asset will be amortized. The Company estimates the fair value of acquisition-related intangible assets principally based on projections of cash flows that will arise from identifiable assets of acquired businesses. The projected cash flows are discounted to determine the present value of the assets at the dates of acquisitions. At December 31, 2014, amortizable intangible assets include existing technology, trade names, distribution agreements, customer relationships and patents. These amortizable intangible assets are amortized on a straight-line basis over 7 to 15 years, 10 to 15 years, 4 to 5 years, 5 to 15 years and 5 to 15 years, respectively.

(n) Goodwill and Other Intangible Assets

Goodwill and unamortizable intangible assets acquired in a business combination and determined to have an indefinite useful life are not amortized, but instead are tested for impairment annually or more frequently if events or changes in circumstances indicate that the asset might be impaired, in accordance with the provisions of FASB ASC 350, "Intangibles—Goodwill and Other".

The Company conducted its annual impairment analysis in the fourth quarter of fiscal year 2014. The goodwill impairment test is a two-step process. The first step of the impairment analysis compares the Company's fair value to its carrying value to determine if there is any indication of impairment. Step two of the analysis compares the implied fair value of goodwill to its carrying amount in a manner similar to a purchase price allocation for business combination. If the carrying amount of goodwill exceeds its implied fair value, an impairment loss is recognized equal to that excess. For indefinite-lived intangible assets if the carrying amount exceeds the fair value of the asset, the Company would write down the indefinite-lived intangible asset to fair value.

At December 31, 2014, the Company compared its carrying value to its overall market capitalization, noting the fair value of the Company significantly exceeded the carrying value. The Company concluded that none of its goodwill was impaired.

The Company evaluates indefinite-lived intangible assets for impairment annually and when events occur or circumstances change that may reduce the fair value of the asset below its carrying amount. Events or circumstances that might require an interim evaluation include unexpected adverse business conditions, economic factors, unanticipated technological changes or competitive activities, loss of key personnel and acts by governments and courts. At December 31, 2014, the Company concluded that none of its indefinite-lived intangible assets were impaired.

(o) Impairment of Long-Lived Assets

The Company assesses recoverability of its long-lived assets that are held for use, such as property, plant and equipment and amortizable intangible assets in accordance with FASB ASC 360, "Property, Plant and Equipment" when events or changes in circumstances indicate that the carrying amount of an asset or asset group may not be recoverable. Recoverability of assets or an asset group to be held and used is measured by a comparison of the carrying amount of an asset or asset group to estimated undiscounted future cash flows expected to be generated by the asset or the asset group. Cash flow projections are based on trends of historical performance and management's estimate of future performance. If the carrying amount of the asset or asset group exceeds the estimated future cash flows, an impairment charge is recognized by the amount by which the carrying amount of the asset or asset group exceeds its estimated fair value. At December 31, 2014, the Company concluded that none of its long-lived assets were impaired.

(p) Derivatives

The Company uses interest-rate-related derivative instruments to manage its exposure related to changes in interest rates on its variable-rate debt instruments. The Company does not enter into derivative instruments for any purpose other than cash flow hedging. The Company does not speculate using derivative instruments. The Company recognizes all derivative instruments as either assets or liabilities in the balance sheet at their respective fair values. For derivatives designated in hedging relationships, changes in the fair value are either offset through earnings against the change in fair value of the hedged item attributable to the risk being hedged or recognized in accumulated other comprehensive income ("AOCI"), to the extent the derivative is effective at offsetting the changes in cash flows being hedged until the hedged item affects earnings.

The Company only enters into derivative contracts that it intends to designate as a hedge of a forecasted transaction or the variability of cash flows to be received or paid related to a recognized asset or liability (cash flow hedge). For all hedging relationships, the Company formally documents the hedging relationship and its risk-management objective and strategy for undertaking the hedge, the hedging instrument, the hedged transaction, the nature of the risk being hedged, how the hedging instrument's effectiveness in offsetting the hedged risk will be assessed prospectively and retrospectively, and a description of the method used to measure ineffectiveness. The Company also formally assesses, both at the inception of the hedging relationship and on an ongoing basis, whether the derivatives that are used in hedging relationships are highly effective in offsetting changes in cash flows of hedged transactions. For derivative instruments that are designated and qualify as part of a cash flow hedging relationship, the effective portion of the gain or loss on the derivative is reported as a component of other comprehensive income and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. Gains and losses on the derivative representing either hedge ineffectiveness or hedge components excluded from the assessment of effectiveness are recognized in current earnings.

The Company discontinues hedge accounting prospectively when it determines that the derivative is no longer effective in offsetting cash flows attributable to the hedged risk, the derivative expires or is sold, terminated, or exercised, the cash flow hedge is de-designated because a forecasted transaction is not probable of occurring, or management determines to remove the designation of the cash flow hedge.

In all situations in which hedge accounting is discontinued and the derivative remains outstanding, the Company continues to carry the derivative at its fair value on the balance sheet and recognizes any subsequent changes in its fair value in earnings. When it is probable that a forecasted transaction will not occur, the Company discontinues hedge accounting and recognizes immediately in earnings gains and losses that were accumulated in other comprehensive income related to the hedging relationship.

(q) Fair Value of Financial Instruments

The carrying values of the Company's cash and cash equivalents, trade accounts receivable and trade accounts payable and short-term debt approximate their fair values because of the short maturities of those instruments. The fair value of the Company's long-term debt approximates its carrying value and is based on the amount of future cash flows associated with the debt discounted using current borrowing rates for similar debt instruments of comparable maturity.

Financial reporting standards define a fair value hierarchy that consists of three levels:

- Level 1 includes instruments for which quoted prices in active markets for identical assets or liabilities accessible to the Company at the measurement date.
- Level 2 includes instruments for which the valuations are based on quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable data for substantially the full term of the assets or liabilities.
- Level 3 includes valuations based on inputs that are unobservable and significant to the overall fair value measurement.

(r) Stock-based Compensation

The Company accounts for stock-based payment awards in accordance with the provisions of FASB ASC 718, "Compensation—Stock Compensation", which requires it to recognize compensation expense for all stock-based payment awards made to employees and directors including stock options, restricted stock units and employee stock purchases ("employee stock purchases") related to the Employee Stock Purchase Plan (as amended, the "ESPP"). The Company issues new shares upon stock option exercises, upon vesting of the restricted stock units and under the Company's ESPP.

Stock-based compensation expense recognized is based on the value of the portion of stock-based payment awards that is ultimately expected to vest and has been reduced for estimated forfeitures. The Company values stock-based payment awards, except restricted stock units at grant date using the Black-Scholes option-pricing model ("Black-Scholes model"). The determination of fair value of stock-based payment awards on the date of grant using an option-pricing model is affected by its stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to its expected stock price volatility over the term of the awards and actual and projected stock option exercise behaviors.

The fair value of restricted stock units are based on the market price of the Company's stock on the date of grant and are recorded as compensation expense ratably over the applicable service period, which ranges from one to four years. Unvested restricted stock units are forfeited in the event of termination of employment with the Company.

Stock-based compensation expense recognized under FASB ASC 718 for the years ended December 31, 2014, 2013 and 2012 consisted of stock-based compensation expense related to stock options, the employee stock purchase plan, and the restricted stock units and was recorded as a component of cost of product revenues, sales and marketing expenses, general and administrative expenses, research and development expenses and discontinued operations.

(s) Recently Issued Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2014-09, *"Revenue from Contracts with Customers,"* a new accounting standard that provides for a comprehensive model to use in the accounting for revenue arising from contracts with customers that will replace most existing revenue recognition guidance in U.S. GAAP. Under this standard, revenue will be recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. This standard will be effective as of the beginning of the Company's 2017 fiscal year. The Company is assessing the new standard and has not yet determined the impact to the consolidated financial statements.

3. Concentrations

No customer accounted for more than 10% of the revenues for the years ended December 31, 2014, 2013 and 2012. At December 31, 2014 and 2013, no customer accounted for more than 10% of net accounts receivable.

4. Inventories

Inventories consist of the following:

	December 31,	
	2014	2013
	(in thousands)	
Finished goods	$ 10,138	$ 7,039
Work in process	946	752
Raw materials	9,447	7,986
Total	$ 20,531	$ 15,777

5. Property, Plant and Equipment

Property, plant and equipment consist of the following:

	December 31,	
	2014	2013
	(in thousands)	
Land, buildings and leasehold improvements	$ 2,595	$ 3,082
Machinery and equipment	10,102	9,471
Computer equipment and software	6,322	4,927
Furniture and fixtures	1,125	1,281
Automobiles	56	59
	20,200	18,820
Less: accumulated depreciation	(15,010)	(14,445)
Property, plant and equipment, net	$ 5,190	$ 4,375

6. Acquisitions

The Company completed two acquisitions during 2014.

Multi Channel Systems MCS GmbH

On October 1, 2014, the Company, through its wholly-owned Biochrom Limited subsidiary, acquired all of the issued and outstanding shares of Multi Channel Systems MCS GmbH ("MCS"), which has its principal offices in Germany, for approximately $11.2 million, including a working capital adjustment. The Company funded the acquisition from its existing cash balances.

MCS is a developer, manufacturer and marketer of in vitro and in vivo electrophysiology instrumentation for extracellular recording and stimulation. This acquisition is complementary to the in vitro electrophysiology line currently offered by the Company's wholly-owned Warner Instruments subsidiary.

The aggregate purchase price for this acquisition was preliminarily allocated to tangible and intangible assets acquired as follows:

	(in thousands)
Tangible assets	$ 5,442
Liabilities assumed	(1,207)
Net assets	4,235
Goodwill and intangible assets:	
Goodwill	3,745
Trade name	1,008
Customer relationships	1,204
Developed technology	2,452
Non-compete agreements	148
Deferred tax liabilities	(1,603)
Total goodwill and intangible assets, net of tax	6,954
Acquisition purchase price	$ 11,189

Goodwill recorded as a result of the acquisition of MCS is not deductible for tax purposes.

The results of operations for MCS have been included in the Company's consolidated financial statements from the date of acquisition and are not material.

The following consolidated pro forma information is based on the assumption that the acquisition of MCS occurred on January 1, 2013. Accordingly, the historical results have been adjusted to reflect amortization expense that would have been recognized on such a pro forma basis. The unaudited pro forma information is presented for comparative purposes only and is not necessarily indicative of the financial position or results of operations which would have been reported had we completed the acquisition during these periods or which might be reported in the future.

	Year Ended December 31,	
	2014	2013
	(in thousands)	
Pro Forma		
Revenues	$ 114,066	$ 114,300
Net income	2,600	(672)

Triangle BioSystems, Inc.

On October 1, 2014, the Company acquired all of the issued and outstanding shares of Triangle BioSystems, Inc. ("TBSI"), which has its principal offices in North Carolina, for approximately $2.2 million, including a working capital adjustment. The Company funded the acquisition from borrowings under its credit facility.

TBSI is a developer, manufacturer and marketer of wireless neural interface equipment to aid in vivo neuroscience research, especially in the fields of electrophysiology, psychology, neurology and pharmacology. This acquisition is complementary to the behavioral neuroscience lines currently offered by the Company's wholly-owned Panlab and Coulbourn subsidiaries.

The aggregate purchase price for this acquisition was preliminarily allocated to tangible and intangible assets acquired as follows:

	(in thousands)
Tangible assets	$ 1,278
Liabilities assumed	(530)
Net assets	748
Goodwill and intangible assets:	
Goodwill	946
Trade name	143
Customer relationships	308
Developed technology	363
Non-compete agreements	30
Deferred tax liabilities	(325)
Total goodwill and intangible assets, net of tax	1,465
Acquisition purchase price	$ 2,213

The results of operations for TBSI have been included in the Company's consolidated financial statements from the date of acquisition and are not material. The Company considers this acquisition immaterial for the purposes of proforma financial statement disclosures. Goodwill recorded as a result of the acquisition of TBSI is not deductible for tax purposes.

Direct acquisition costs recorded in other expense, net in the Company's consolidated statements of operations were $1.1 million, $0 and $0.3 million for the years ended December 31, 2014, 2013 and 2012, respectively.

7. Discontinued Operations

UBI

In September 2008, the Company completed the sale of assets of its Union Biometrica Division ("UBI") including its German subsidiary, Union Biometrica GmbH, to UBIO Acquisition Company. During 2013, the Company received earn-out payments, including interest, from UBIO Acquisition Company, of $1.8 million related to the 2008 acquisition. The Company received its final payment under the earn-out obligation from UBIO Acquisition Company in October 2013.

HART

On November 1, 2013, the spin-off of Harvard Apparatus Regenerative Technology, Inc. ("HART") from the Company was completed. Through the spin-off date, the historical operations of HART were reported as continuing operations in the consolidated statements of operations of the Company. Following the spin-off, the historical operations of HART have been reclassified and reported as discontinued operations for all periods presented. As a result of the spin-off and related separation, HART became an independent company that operates the regenerative medicine business previously owned by Harvard Bioscience. The spin-off was completed through the distribution to Harvard Bioscience's stockholders of record all of the shares of common stock of HART (the "Distribution"). In the Distribution, the Company distributed to its stockholders one share of HART common stock for every four shares of Harvard Bioscience common stock outstanding as of the close of business on October 21, 2013, the record date for the Distribution. Fractional shares of HART common stock were not included in the distribution. Instead, Registrar & Transfer Company aggregated fractional shares into whole shares, sold the whole shares in the open market and distributed the aggregate net cash proceeds of the sales pro rata to each holder who otherwise would have been entitled to receive a fractional share in the Distribution.

Effective with the spin-off, the Company contributed $15.0 million in cash to HART to fund its operations. In addition, the Company transferred approximately $0.9 million in assets, made up primarily of property, plant and equipment, to HART as part of the spin-off.

In connection with the spin-off of HART, certain required adjustments were made to the Company's outstanding equity compensation awards under its employee benefit plans. Each outstanding option to purchase Harvard Bioscience common stock was converted on the date of the Distribution into both an adjusted Harvard Bioscience option to purchase Harvard Bioscience common stock and an option to purchase HART common stock. Black-Scholes valuation modeling was used to determine the value that each Harvard Bioscience option had lost at the time of the Distribution and to ensure the holder maintained such lost value, 80% of such lost value was provided back to the holder by making appropriate adjustments to the share amount and exercise price of the existing Harvard Bioscience option and 20% of such lost value was provided back to the holder through the issuance of an option to purchase HART common stock. Similar to the adjustment of the existing Harvard Bioscience options, with respect to each unvested Harvard Bioscience restricted stock unit outstanding at the time of the Distribution, such Harvard Bioscience restricted stock unit was converted on the date of the Distribution into both an adjusted Harvard Bioscience restricted stock unit and a HART restricted stock unit. The market prices of Harvard Bioscience and HART common stock were used to determine the value that each Harvard Bioscience restricted stock unit lost at the time of the Distribution and then to ensure the holder maintained such lost value, 80% of such lost value was provided back to the holder by making the appropriate increases of the share amount of the existing Harvard Bioscience restricted stock unit and 20% of such lost value was provided back to the holder through the issuance of a HART restricted stock unit. The share amounts and exercise prices of the adjusted Harvard Bioscience options and HART options, as well as the share amounts of the adjusted Harvard Bioscience restricted stock units and HART restricted stock units, were each adjusted and set in a manner to ensure the intrinsic value held by the holder pertaining to the existing Harvard Bioscience award was maintained immediately following the Distribution and was determined such that tax was not triggered under Section 409A of the Internal Revenue Code. As part of these required adjustments, the Company issued approximately 1.7 million options and approximately 0.1 million restricted stock units to holders of its outstanding equity compensation awards.

In connection with the spin-off, on October 31, 2013, the Company entered into various commercial agreements with HART which contain many of the key terms, conditions and arrangements related to the Distribution. A description of certain of these agreements can be found in Note 20.

Harvard Bioscience intends for the Distribution and related separation, taken together, to qualify as a reorganization pursuant to which no gain or loss is recognized by Harvard Bioscience or its stockholders for federal income tax purposes under Sections 355, 368(a)(1)(D) and related provisions of the Internal Revenue Code. On June 28, 2013, Harvard Bioscience received a Supplemental Ruling to the Private Letter Ruling dated March 22, 2013 from the IRS to the effect that, among other things, the spin-off will qualify as a transaction that is tax-free for U.S. federal income tax purposes under Section 355 and 368(a)(1)(D) of the Internal Revenue Code continuing in effect. Harvard Bioscience has also received an opinion from its outside tax advisor to such effect. In connection with the ruling and the opinion, Harvard Bioscience made certain representations regarding it and its business. The Company has agreed that it will not take or fail to take any action which prevents or could reasonably be expected to prevent the tax-free status of the spin-off. HART has agreed to certain restrictions that are intended to preserve the tax-free status of the contribution and the Distribution. HART may take certain actions otherwise prohibited by these covenants if Harvard Bioscience receives a private letter ruling from the IRS or if HART obtains, and provides to Harvard Bioscience, an opinion from a U.S. tax counsel or accountant of recognized national standing, in either case, acceptable to Harvard Bioscience in its sole and absolute discretion to the effect that such action would not jeopardize the tax-free status of the contribution and the Distribution. These covenants include restrictions on HART's:

- issuance or sale of stock or other securities (including securities convertible into HART's stock but excluding certain compensatory arrangements);

- sales of assets outside the ordinary course of business; and

- entering into any other corporate transaction which would cause HART to undergo a 50% or greater change in HART's stock ownership.

In addition, current U.S. federal income tax law creates a presumption that the spin-off of HART would be taxable to the Company, but not its stockholders, if such spin-off is part of a "plan or series of related transactions" pursuant to which one or more persons acquire directly or indirectly stock representing a 50% or greater interest (by vote or value) in the Company or HART. Acquisitions that occur during the four-year period that begins two years before the date of the spin-off are presumed to occur pursuant to a plan or series of related transactions, unless it is established that the acquisition is not pursuant to a plan or series of transactions that includes the spin-off. U.S. Treasury regulations currently in effect generally provide that whether an acquisition and a spin-off are part of a plan is determined based on all of the facts and circumstances, including, but not limited to, specific factors described in the U.S. Treasury regulations. In addition, the U.S. Treasury regulations provide several "safe harbors" for acquisitions that are not considered to be part of a plan. These rules will limit the Company's ability during the two-year period following the spin-off to enter into certain transactions that may be advantageous to the Company and its

stockholders, particularly issuing equity securities to satisfy financing needs, repurchasing equity securities, disposing of certain assets, engaging in mergers and acquisitions, and, under certain circumstances, acquiring businesses or assets with equity securities or agreeing to be acquired.

The following table sets forth the impact of discontinued operations on the Company's consolidated statements of operations for the years ended December 31, 2013 and 2012.

	Year Ended December 31,	
	2013	2012
	(in thousands)	
Gain on disposal of discontinued operations, UBI	$ 440	$ 1,344
(Loss) from discontinued operations, HART	(4,861)	(4,664)
Income tax (benefit)	(1,868)	(1,196)
(Loss) from discontinued operations, net of tax	$ (2,553)	$ (2,124)

8. Goodwill and Other Intangible Assets

Intangible assets consist of the following:

	December 31, 2014		December 31, 2013		Weighted Average Life (a)
	(in thousands)				
Amortizable intangible assets:	Gross	Accumulated Amortization	Gross	Accumulated Amortization	
Existing technology	$ 15,538	$ (11,198)	$ 13,464	$ (11,091)	7.3 Years
Trade names	7,114	(2,557)	6,178	(2,185)	10.8 Years
Distribution agreements/customer relationships	22,730	(10,681)	21,827	(9,447)	10.3 Years
Patents	256	(49)	271	(8)	4.2 Years
Total amortizable intangible assets	45,638	$ (24,485)	41,740	$ (22,731)	
Indefinite-lived intangible assets:					
Goodwill	39,822		36,605		
Other indefinite-lived intangible assets	1,252		1,289		
Total goodwill and other indefinite-lived intangible assets	41,074		37,894		
Total intangible assets	$ 86,712		$ 79,634		

(a) Weighted average life as of December 31, 2014.

The change in the carrying amount of goodwill for the year ended December 31, 2014 is as follows:

	(in thousands)
Balance at December 31, 2012	$ 36,200
Effect of change in currency translation	405
Balance at December 31, 2013	$ 36,605
Goodwill arising from business combinations	4,691
Effect of change in currency translation	(1,474)
Balance at December 31, 2014	$ 39,822

Intangible asset amortization expense was $2.6 million, $2.6 million and $2.8 million for the years ended December 31, 2014, 2013 and 2012, respectively. Amortization expense of existing amortizable intangible assets is currently estimated to be $2.6 million for the year ending December 31, 2015, $2.5 million for the year ending December 31, 2016, $2.3 million for the year ending December 31, 2017, $2.1 million for the year ending December 31, 2018 and $2.0 million for the year ending December 31, 2019.

9. Restructuring and Other Exit Costs

2014 Restructuring Plan

During the fourth quarter of 2014, management of Harvard Bioscience initiated a plan to relocate certain distribution and manufacturing operations in order to create organizational efficiencies and reduce operating expenses. The 2014 restructuring plan included plans to relocate the distribution operations of the Company's Denville subsidiary from New Jersey to North Carolina, as well as consolidating the manufacturing operations of its Biochrom subsidiary to its headquarters in Holliston, MA. The Company recorded restructuring charges of approximately $0.7 million representing severance costs. Additional charges related to this plan are expected to be incurred through the third quarter of 2015, and include, but are not limited to, contract termination costs, as well as moving and employee relocation costs. Payments related to this plan are expected to be made through the end of 2015. Activity and liability balances related to these charges were as follows:

	Severance Costs
	(in thousands)
Restructuring charges	$ 655
Cash payments	(29)
Restructuring balance at December 31, 2014	$ 626

2013 Restructuring Plans

During the fourth quarter of 2013, the management of Harvard Bioscience initiated a plan to realign global operations to improve organizational efficiencies and reduce operating expenses throughout the Company. The plan included an approximately 13% reduction in the workforce, as well as the elimination of the position of Chief Operating Officer. During the years ended December 31, 2014 and 2013, the Company recorded net restructuring charges of approximately $0.4 millions and $2.1 million, respectively, representing severance and other costs. No further charges are expected to be incurred on this matter. As of December 31, 2014, the Company had no remaining liability related to this plan on its balance sheet. Activity and liability balances related to these charges were as follows:

	Severance and Related Costs	Fixed Asset Write Offs	Other	Total
		(in thousands)		
Restructuring charges – 2013	$ 2,100	$ -	$ -	$ 2,100
Cash payments	(666)	-	-	(666)
Restructuring balance at December 31, 2013	1,434	-	-	1,434
Restructuring charges	199	13	293	505
Non-cash reversal of restructuring charges	(117)	(13)	-	(130)
Cash payments	(1,516)	-	(293)	(1,809)
Restructuring balance at December 31, 2014	$ -	$ -	$ -	$ -

As part of the fourth quarter 2013 restructuring plan, the Company decided to close one of its facilities in the United Kingdom. During the fourth quarter of 2014, the facility was sold. The gain of $0.8 million was recorded in a separate line in the Company's statements of operations within operating expenses.

During the third quarter of 2013, the management of Harvard Bioscience initiated a plan to reduce operating expenses at one of its foreign subsidiaries. No further charges are expected to be incurred on this matter. As of December 31, 2013, the Company had no remaining liability related to this plan on its balance sheet. Activity and liability balances related to these charges were as follows:

	Severance and Related Costs
	(in thousands)
Restructuring charges	$ 96
Cash payments	(96)
Restructuring balance at December 31, 2013	$ -

2012 Restructuring Plan

During 2012, the management of Harvard Bioscience initiated a plan to reduce operating expenses at one of its foreign subsidiaries. The Company recorded restructuring charges of approximately $0.3 million representing severance payments. No further charges are expected to be incurred on this matter. As of December 31, 2014, the Company had no remaining liability related to this plan on its balance sheet. Activity and liability balances related to these charges were as follows:

	Severance and Related Costs	Other	Total
	(in thousands)		
Restructuring charges	$ 312	$ 11	$ 323
Cash payments	(179)	-	(179)
Restructuring balance at December 31, 2012	133	11	144
Cash payments	(84)	(11)	(95)
Non-cash reversal of restructuring charges	(46)	-	(46)
Restructuring balance at December 31, 2013	3	-	3
Non-cash reversal of restructuring charges	(3)	-	(3)
Restructuring balance at December 31, 2014	$ -	$ -	$ -

Aggregate net restructuring charges relating to the 2014 restructuring plan, 2013 restructuring plans and the 2012 restructuring plan were as follows:

	Year Ended December 31,		
	2014	2013	2012
	(in thousands)		
Restructuring charges	$ 1,027	$ 2,150	$ 310

10. Long Term Debt

On August 7, 2009, the Company entered into an amended and restated $20.0 million revolving credit loan agreement with Bank of America, as agent, and Bank of America and Brown Brothers Harriman & Co as lenders (the "2009 Credit Agreement"). On September 30, 2011, the Company entered into the First Amendment to the Amended and Restated Revolving Credit Loan Agreement (the "First Amendment") with Bank of America as agent, and Bank of America and Brown Brothers Harriman & Co as lenders. The First Amendment extended the maturity date of the credit facility to August 7, 2013 and reduced the interest rate to the London Interbank Offered Rate plus 3.0%. On October 4, 2012, the Company entered into the Second Amendment to the Amended and Restated Revolving Credit Loan Agreement (the "Second Amendment") with Bank of America as agent, and Bank of America and Brown Brothers Harriman & Co as lenders. The Second Amendment extended the maturity date of the credit facility to August 7, 2014.

On March 29, 2013, the Company entered into a Second Amended and Restated Revolving Credit Agreement (as amended, the "Credit Agreement") with Bank of America, as agent, and Bank of America and Brown Brothers Harriman & Co as lenders, that amended and restated the 2009 Credit Agreement. The Credit Agreement converted the Company's existing outstanding revolving advances into a term loan in the principal amount of $15.0 million (the "Term Loan"), provides a revolving credit facility in the maximum principal amount of $25.0 million ("Revolving Line") and provides a delayed draw term loan of up to $15.0 million (the "DDTL") to fund capital contributions to the Company's former subsidiary, HART. The maximum amount available under the Credit Agreement is $50.0 million as borrowings against the DDTL in excess of $10.0 million results in a dollar for dollar reduction in the Revolving Line capacity. The Revolving Line has a maturity date of March 29, 2016, while the Term Loan and DDTL have a maturity date of March 29, 2018.

On October 31, 2013, the Company amended the Credit Agreement to reduce the DDTL from up to $15.0 million to up to $10.0 million and allow for an additional $5.0 million to be available for drawing as advances under the Revolving Line.

Borrowings under the Term Loan and the DDTL shall bear interest at a rate based on either the effective London Interbank Offered Rate (LIBOR) for certain interest periods selected by the Company, or a daily floating rate based on the British Bankers' Association (BBA) LIBOR as published by Reuters (or other commercially available source providing quotations of BBA LIBOR), plus in either case, a margin of 3.0%. The Revolving Line shall bear interest at a rate based on either the effective LIBOR for certain interest periods selected by the Company, or a daily floating rate based on the BBA LIBOR, plus in either case, a margin of 2.5%. The Company was required to fix the rate of interest on at least 50% of the Term Loan and the DDTL

through the purchase of interest rate swaps. The Term Loan and DDTL each have interest payments due at the end of the applicable LIBOR period, or monthly with respect to BBA LIBOR borrowings, and principal payments due quarterly. The Revolving Line has interest payments due at the end of the applicable LIBOR period, or monthly with respect to BBA LIBOR borrowings.

The loans evidenced by the Credit Agreement, or the Loans, are guaranteed by all of the Company's direct and indirect domestic subsidiaries, and secured by substantially all of the assets of the Company and the guarantors. The Loans are subject to restrictive covenants under the Credit Agreement, and financial covenants that require the Company and its subsidiaries to maintain certain financial ratios on a consolidated basis, including a maximum leverage, minimum fixed charge coverage and minimum working capital. Prepayment of the Loans is allowed by the Credit Agreement at any time during the terms of the Loans. The Loans also contain limitations on the Company's ability to incur additional indebtedness and requires lender approval for acquisitions funded with cash, promissory notes and/or other consideration in excess of $6.0 million and for acquisitions funded solely with equity in excess of $10.0 million.

As of December 31, 2014 and December 31, 2013, the Company had borrowings of $21.5 million and $24.8 million, respectively, outstanding under its Credit Agreement. As of December 31, 2014, the Company was in compliance with all financial covenants contained in the Credit Agreement, was subject to covenant and working capital borrowing restrictions and had available borrowing capacity under its Credit Agreement of $11.8 million.

As of December 31, 2014, the weighted effective interest rates on the Company's Term Loan, DDTL and Revolving Line borrowings were 3.96%, 3.55% and 2.67%, respectively.

As of December 31, 2014 and December 31, 2013, the Company's borrowings were comprised of:

	December 31,	
	2014	2013
	(in thousands)	
Long-term debt:		
Term loan	$ 9,750	$ 12,750
DDTL	7,500	9,500
Revolving line	4,200	2,500
Total debt	21,450	24,750
Less: current installments	(5,000)	(5,000)
Long-term debt	$ 16,450	$ 19,750

The aggregate amounts of debt maturing during the next five years are as follows:

	(in thousands)
2015	$ 5,000
2016	9,200
2017	5,000
2018	2,250
2019	-
Total	$ 21,450

11. Derivatives

The Company uses interest-rate-related derivative instruments to manage its exposure related to changes in interest rates on its variable-rate debt instruments. The Company does not enter into derivative instruments for any purpose other than cash flow hedging. The Company does not speculate using derivative instruments.

By using derivative financial instruments to hedge exposures to changes in interest rates, the Company exposes itself to credit risk and market risk. Credit risk is the failure of the counterparty to perform under the terms of the derivative contract. When the fair value of a derivative contract is positive, the counterparty owes the Company, which creates credit risk for the Company. When the fair value of a derivative contract is negative, the Company owes the counterparty and, therefore, the Company is not exposed to the counterparty's credit risk in those circumstances. The Company minimizes counterparty credit risk in derivative instruments by entering into transactions with carefully selected major financial institutions based upon their credit profile.

Market risk is the adverse effect on the value of a derivative instrument that results from a change in interest rates. The market risk associated with interest-rate contracts is managed by establishing and monitoring parameters that limit the types and degree of market risk that may be undertaken.

The Company assesses interest rate risk by continually identifying and monitoring changes in interest rate exposures that may adversely impact expected future cash flows and by evaluating hedging opportunities. The Company maintains risk management control systems to monitor interest rate risk attributable to both the Company's outstanding or forecasted debt obligations as well as the Company's offsetting hedge positions. The risk management control systems involve the use of analytical techniques, including cash flow sensitivity analysis, to estimate the expected impact of changes in interest rates on the Company's future cash flows.

The Company uses variable-rate London Interbank Offered Rate (LIBOR) debt to finance its operations. The debt obligations expose the Company to variability in interest payments due to changes in interest rates. Management believes that it is prudent to limit the variability of a portion of its interest payments. To meet this objective, management enters into LIBOR based interest rate swap agreements to manage fluctuations in cash flows resulting from changes in the benchmark interest rate of LIBOR. These swaps change the variable-rate cash flow exposure on the debt obligations to fixed cash flows. Under the terms of the interest rate swaps, the Company receives LIBOR based variable interest rate payments and makes fixed interest rate payments, thereby creating the equivalent of fixed-rate debt for the notional amount of its debt hedged. In accordance with its Credit Agreement, the Company was required to fix the rate of interest on at least 50% of its Term Loan and the DDTL through the purchase of interest rate swaps. On June 5, 2013, the Company entered into an interest rate swap contract with an original notional amount of $15.0 million and a maturity date of March 29, 2018 in order to hedge the risk of changes in the effective benchmark interest rate (LIBOR) associated with the Company's Term Loan. On November 29, 2013, the Company entered into a second interest rate swap contract with an original notional amount of $5.0 million and a maturity date of March 29, 2018 in order to hedge the risk of changes in the effective benchmark interest rate (LIBOR) associated with the DDTL. The notional amount of the Company's derivative instruments as of December 31, 2014 was $13.5 million. The Term Loan swap contract converted specific variable-rate debt into fixed-rate debt and fixed the LIBOR rate associated with the Term Loan at 0.96% plus a bank margin of 3.0%. The DDTL swap contract converted specific variable-rate debt into fixed-rate debt and fixed the LIBOR rate associated with the Term Loan at 0.93% plus a bank margin of 3.0%.The interest rate swaps were designated as cash flow hedges in accordance with ASC 815, *Derivatives and Hedging*.

The following table presents the notional amount and fair value of the Company's derivative instruments as of December 31, 2014 and December 31, 2013.

Derivatives designated as hedging instruments under ASC 815	**Balance sheet classification**	**December 31, 2014 Notional Amount**	**December 31, 2014 Fair Value (a)**
		(in thousands)	
Interest rate swap	Other liabilities-non current	$ 13,500	$ (18)

Derivatives designated as hedging instruments under ASC 815	**Balance sheet classification**	**December 31, 2013 Notional Amount**	**December 31, 2013 Fair Value (a)**
		(in thousands)	
Interest rate swap	Other liabilities-non current	$ 17,500	$ (49)

(a) See Note 12 for the fair value measurements related to these financial instruments.

All of the Company's derivative instruments are designated as hedging instruments.

The Company has structured its interest rate swap agreements to be 100% effective and as a result, there was no impact to earnings resulting from hedge ineffectiveness. Changes in the fair value of interest rate swaps designated as hedging instruments that effectively offset the variability of cash flows associated with variable-rate, long-term debt obligations are reported in accumulated other comprehensive income ("AOCI"). These amounts subsequently are reclassified into interest expense as a yield adjustment of the hedged interest payments in the same period in which the related interest affects earnings. The Company's interest rate swap agreement was deemed to be fully effective in accordance with ASC 815, and, as such, unrealized gains and losses related to these derivatives were recorded as AOCI.

The following table summarizes the effect of derivatives designated as cash flow hedging instruments and their classification within comprehensive income for the years ended December 31, 2014, 2013 and 2012:

Derivatives in Hedging Relationships	Amount of gain or (loss) recognized in OCI on derivative (effective portion)		
	Year Ended December 31,		
	2014	2013	2012
	(in thousands)		
Interest rate swaps	$ (99)	$ (116)	$ -

The following table summarizes the reclassifications out of accumulated other comprehensive income (loss) for the years ended December 31, 2014, 2013 and 2012:

Details about AOCI Components	Amount of gain or (loss) reclassified from AOCI into income (effective portion)			Location of gain or (loss) reclassified from AOCI into income (effective portion)
	Year Ended December 31,			
	2014	2013	2012	
	(in thousands)			
Interest rate swaps	$ (130)	$ (67)	$ -	Interest expense

As of December 31, 2014, $0.1 million of deferred losses on derivative instruments accumulated in AOCI are expected to be reclassified to earnings during the next twelve months. Transactions and events expected to occur over the next twelve months that will necessitate reclassifying these derivatives' losses to earnings include the repricing of variable-rate debt. There were no cash flow hedges discontinued during 2014 or 2013.

12. Fair Value Measurements

Fair value measurement is defined as the price that would be received to sell an asset or paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. A fair value hierarchy is established, which prioritizes the inputs used in measuring fair value into three broad levels as follows:

Level 1—Quoted prices in active markets for identical assets or liabilities.
Level 2—Inputs, other than the quoted prices in active markets, that are observable either directly or indirectly.
Level 3—Unobservable inputs based on the Company's own assumptions.

The following tables present the fair value hierarchy for those liabilities measured at fair value on a recurring basis:

	Fair Value as of December 31, 2014			
(In thousands)	Level 1	Level 2	Level 3	Total
Liabilities:				
Interest rate swap agreements	$ -	$ 18	$ -	$ 18

	Fair Value as of December 31, 2013			
(In thousands)	Level 1	Level 2	Level 3	Total
Liabilities:				
Interest rate swap agreements	$ -	$ 49	$ -	$ 49

The Company uses the market approach technique to value its financial liabilities. The Company's financial liabilities carried at fair value include derivative instruments used to hedge the Company's interest rate risks. The fair value of the Company's interest rate swap agreements was based on LIBOR yield curves at the reporting date.

13. Leases

During the year ended December 31, 2014, the Company entered into Amendment No. 3 (the "Third Amendment") amending the terms of the lease on the Company's corporate headquarters in Holliston, MA. The Third Amendment extended the term of the lease through August 31, 2024, while also expanding the Company's rentable square feet in the building by approximately 22,000 square feet to a total of approximately 83,000 square feet. The commencement date of the Third Amendment was October 1, 2014.

The Company has noncancelable operating leases for office and warehouse space expiring at various dates through 2019 and thereafter. Rent expense, which is recorded on a straight-line basis, was approximately $1.7 million, $1.3 million and $1.3 million for the years ended December 31, 2014, 2013 and 2012, respectively.

Future minimum lease payments for operating leases, with initial or remaining terms in excess of one year at December 31, 2014, are as follows:

	Operating Leases
	(in thousands)
2015	$ 2,094
2016	1,603
2017	1,579
2018	1,550
2019	1,353
Thereafter	5,867
Net minimum lease payments	$ 14,046

14. Accrued Expenses

Accrued expenses consist of:

	December 31,	
	2014	2013
	(in thousands)	
Accrued compensation and payroll	$ 1,616	$ 1,349
Accrued professional fees	735	927
Accrued severance	626	1,434
Warranty costs	240	305
Other	1,235	1,063
Total	$ 4,452	$ 5,078

15. Income Tax

Income tax expense (benefit) attributable to income from continuing operations for the years ended December 31, 2014, 2013 and 2012 consisted of:

	Year Ended December 31,		
	2014	2013	2012
		(in thousands)	
Current income tax expense:			
Federal and state	$ 27	$ 47	$ 70
Foreign	424	413	1,705
	451	460	1,775
Deferred income tax expense (benefit):			
Federal and state	1,793	(594)	931
Foreign	(182)	(154)	(308)
	1,611	(748)	623
Total income tax expense (benefit)	$ 2,062	$ (288)	$ 2,398

Income tax expense (benefit) for the years ended December 31, 2014, 2013 and 2012 differed from the amount computed by applying the U.S. federal income tax rate of 34% to pre-tax continuing operations income as a result of the following:

	Year Ended December 31,		
	2014	2013	2012
		(in thousands)	
Computed "expected" income tax expense	$ 1,503	$ 147	$ 2,343
Increase (decrease) in income taxes resulting from:			
Permanent differences, net	(93)	482	(25)
Foreign tax rate differential	(364)	(64)	(435)
State income taxes, net of federal income tax benefit	-	31	135
Non-deductible stock compensation expense	67	1	254
Impact of prior year pension deductions	-	(294)	-
Tax credits	(385)	(615)	(127)
Change in valuation allowance allocated to income tax expense (benefit)	1,346	31	281
Other	(12)	(7)	(28)
Total income tax expense (benefit)	$ 2,062	$ (288)	$ 2,398

Income tax expense (benefit) is based on the following pre-tax income from continuing operations for the years ended December 31, 2014, 2013 and 2012:

	Year Ended December 31,		
	2014	2013	2012
		(in thousands)	
Domestic	$ 1,846	$ (2,549)	$ 681
Foreign	2,571	2,984	6,211
Total	$ 4,417	$ 435	$ 6,892

The tax effects of temporary differences that give rise to significant components of the deferred tax assets and deferred tax liabilities from continuing operations at December 31, 2014 and 2013 are as follows:

	December 31,	
	2014	2013
	(in thousands)	
Deferred tax assets:		
Accounts receivable	$ 45	$ 65
Inventory	1,416	1,405
Operating loss and credit carryforwards	12,803	12,978
Accrued expenses	188	409
Pension liabilities	889	985
Contingent consideration	2,806	2,593
Other accrued liabilities	1,832	1,867
Total gross deferred assets	19,979	20,302
Less: valuation allowance	(2,423)	(1,249)
Deferred tax assets	$ 17,556	$ 19,053
Deferred tax liabilities:		
Intangible assets	$ 6,021	$ 4,242
Property, plant and equipment	27	70
Other accrued liabilities	383	238
Total deferred tax liabilities	6,431	4,550
Net deferred tax assets	$ 11,125	$ 14,503

The amounts recorded as deferred tax assets as of December 31, 2014 and 2013 represent the amount of tax benefits of existing deductible temporary differences and carryforwards that are more likely than not to be realized through the generation of sufficient future taxable income within the carryforward period. Significant management judgment is required in determining

any valuation allowance recorded against deferred tax assets and liabilities. During the year ended December 31, 2014 the Company determined that it was more likely than not that certain of its U.S. foreign tax credits would expire unused and therefore recorded an increase to the valuation allowance of $1.3 million related to these credit carryforwards. The Company also provided valuation allowances for net deferred tax assets in several state and foreign jurisdictions and certain credit carryforwards.

At December 31, 2014, the Company had federal and state net operating loss carryforwards available to offset future taxable income of approximately $25.4 million. The operating loss carryforwards will begin to expire in 2015. Furthermore, the Company had foreign operating loss carryforwards to offset future taxable income of approximately $4.9 million, which can be carried forward indefinitely. The Company also had federal and state general business and minimum tax credit carryforwards available to reduce future federal and state regular income taxes of approximately $5.2 million, which begin to expire in 2016. Approximately $5.5 million of net operating losses are subject to an annual limitation of $0.7 million imposed by change in ownership provisions of Section 382 of the Internal Revenue Code. As mentioned above, certain of these net operating loss and credit carryforwards have full valuation allowances set up against them.

Undistributed earnings of the Company's foreign subsidiaries amounted to approximately $51.9 million, $49.2 million, and $46.0 million at December 31, 2014, 2013 and 2012, respectively. Undistributed foreign earnings are indefinitely reinvested and, accordingly, no related provision for U.S federal and state income taxes has been provided. It is impracticable to estimate the total tax liability, if any, which would be created by the future distribution of these earnings.

At December 31, 2014 and 2013, cash and cash equivalents held by the Company's foreign subsidiaries was $12.7 million and $23.6 million, respectively. These funds are not available for domestic operations unless the funds are repatriated. If the Company planned to or did repatriate these funds then U.S. federal and state income taxes would have to be recorded on such amounts. The Company currently has no plans and does not intend to repatriate any of its undistributed foreign earnings. The foreign earnings are considered permanently reinvested and will be used for foreign acquisitions, capital investments and operations. In October 2014, the Company acquired all issued and outstanding shares of MCS, a German manufacturer, and utilized approximately $11.2 million of foreign cash on hand to do so. In February 2012, the Company acquired all issued and outstanding shares of AHN, a German manufacturer, and utilized approximately $2.0 million of foreign cash on hand. In 2014, the Company also used $0.4 million of foreign cash on hand for capital improvements at AHN. Also in January 2015 the Company acquired all issued and outstanding shares of HEKA Elektronik (see Note 25) utilizing approximately $6.0 million of foreign cash on hand.

During 2010, the Company completed an analysis of its research and development credit carryforwards and determined that due to certain documentation requirements to substantiate the credit, an uncertain tax liability of $0.2 million should be recorded. No penalties or interest have been accrued on this liability because the credits have not yet been utilized. Also, as part of the acquisition of TBSI, the Company acquired approximately $59,000 of uncertain tax liabilities related to certain potentially nondeductible expenses reflected in previously filed pre-acquisition tax returns. If payment of these amounts ultimately proves to be unnecessary, the reversal of the liabilities would result in tax benefits being recognized in the period when the Company determines the liabilities are no longer necessary. If the estimate of tax liabilities proves to be less than the ultimate assessment, a further charge to expense would result. A reconciliation of uncertain tax liabilities is as follows:

	(in thousands)
Balance at December 31, 2012	$ 191
Additions based on tax positions of prior years	-
Balance at December 31, 2013	191
Additions based on tax positions of acquired entities	59
Balance at December 31, 2014	$ 250

The Company or one of its subsidiaries files income tax returns in the U.S. federal jurisdiction, and various states and foreign jurisdictions. With few exceptions, the Company is no longer subject to income tax examinations by tax authorities for years before 2010. During 2013, the Company closed its IRS audit for the 2009 and 2010 tax years. There were no material adjustments. During 2014 the company closed its audit for tax years 2009 and 2010 by the Massachusetts Department of Revenue with no material adjustments. The Company's Canadian subsidiary was under audit by the Canadian Revenue Agency for the 2011 tax year. This audit was closed in February 2015 with no adjustments. The Company is not aware of any tax audits in other major jurisdictions.

During 2013, the Company spun off its HART subsidiary. All related carryforward tax attributes remained with Harvard Bioscience.

16. Employee Benefit Plans

The Company sponsors profit sharing retirement plans for its U.S. employees, which includes employee savings plans established under Section 401(k) of the U.S. Internal Revenue Code (the "401(k) Plans"). The 401(k) Plans cover substantially all full-time employees who meet certain eligibility requirements. Contributions to the profit sharing retirement plans are at the discretion of management. For the years ended December 31, 2014, 2013 and 2012, the Company contributed approximately $0.5 million, $0.6 million and $0.5 million, respectively, to the 401(k) Plans.

Certain of the Company's subsidiaries in the United Kingdom, or UK, Harvard Apparatus Limited and Biochrom, maintain contributory, defined benefit or defined contribution pension plans for substantially all of their employees. As of December 31, 2014, the principal employer of the Harvard Apparatus Limited pension plan was changed from Harvard Apparatus Limited to Biochrom. As of December 31, 2014, these defined benefit pension plans were closed to new employees, as well as closed to the future accrual of benefits for existing employees. The provisions of FASB ASC 715-20 require that the funded status of the Company's pension plans be recognized in its balance sheet. FASB ASC 715-20 does not change the measurement or income statement recognition of these plans, although it does require that plan assets and benefit obligations be measured as of the balance sheet date. The Company has historically measured the plan assets and benefit obligations as of the balance sheet date.

The components of the Company's defined benefit pension expense were as follows:

	Year Ended December 31,		
	2014	2013	2012
		(in thousands)	
Components of net periodic benefit cost:			
Service cost	$ -	$ 288	$ 314
Interest cost	893	797	819
Expected return on plan assets	(649)	(524)	(570)
Net amortization loss	259	305	248
Curtailment gain	-	(197)	-
Net periodic benefit cost	$ 503	$ 669	$ 811

The measurement date is December 31 for these plans. The funded status of the Company's defined benefit pension plans and the amount recognized in the consolidated balance sheets at December 31, 2014 and 2013 is as follows:

	December 31,	
	2014	2013
	(in thousands)	
Change in benefit obligation:		
Balance at beginning of year	$ 20,403	$ 19,643
Service cost	-	272
Interest cost	893	797
Participants' contributions	5	56
Actuarial loss (gain)	1,628	(329)
Benefits paid	(457)	(431)
Currency translation adjustment	(1,302)	395
Balance at end of year	$ 21,170	$ 20,403

	December 31,	
	2014	2013
	(in thousands)	
Change in fair value of plan assets:		
Balance at beginning of year	$ 15,540	$ 13,704
Actual return on plan assets	1,119	1,125
Participants' contributions	5	56
Employer contributions	1,546	801
Benefits paid	(457)	(431)
Currency translation adjustment	(1,029)	285
Balance at end of year	$ 16,724	$ 15,540

	December 31,	
	2014	2013
	(in thousands)	
Change in benefit obligation:		
Funded status	$ (4,446)	$ (4,863)
Unrecognized net loss	N/A	N/A
Net amount recognized	$ (4,446)	$ (4,863)

The accumulated benefit obligation for all defined benefit pension plans was $21.2 million and $19.5 million at December 31, 2014 and 2013, respectively.

The amounts recognized in the consolidated balance sheets consist of:

	December 31,	
	2014	2013
	(in thousands)	
Deferred income tax assets	$ 889	$ 985
Other long term liabilities	(4,446)	(4,863)
Net amount recognized	$ (3,557)	$ (3,878)

The amounts recognized in accumulated other comprehensive income, net of tax consist of:

	December 31,	
	2014	2013
	(in thousands)	
Underfunded status of pension plans	$ (3,557)	$ (3,878)
Net amount recognized	$ (3,557)	$ (3,878)

The weighted average assumptions used in determining the net pension cost for these plans follows:

	Year Ended December 31,		
	2014	2013	2012
Discount rate	4.43%	4.43%	4.09%
Expected return on assets	4.15%	3.79%	4.02%
Rate of compensation increase	0.00%	2.99%	3.51%

The discount rate assumptions used for pension accounting reflect the prevailing rates available on high-quality, fixed-income debt instruments with terms that match the average expected duration of the Company's defined benefit pension plan obligations. The Company uses the iBoxx AA 15yr+ index, which matches the average duration of its pension plan liability of approximately 15 years. With the current base of assets in the pension plans, a 0.1% increase/decrease in the discount rate assumption would decrease/increase annual pension expense by approximately $89,000.

The Company's mix of pension plan investments among asset classes also affects the long-term expected rate of return on plan assets. As of December 31, 2014, the Company's actual asset mix approximated its target mix. Differences between actual and expected returns are recognized in the calculation of net periodic pension (income)/cost over the average remaining expected future working lifetime, which is approximately 15 years, of active plan participants. With the current base of assets, a 0.1% increase/decrease in the asset return assumption would decrease/increase annual pension expense by approximately $17,000.

The fair value and asset allocations of the Company's pension benefits as of December 31, 2014 and 2013 measurement dates were as follows:

	December 31,			
	2014		2013	
	(in thousands)			
Asset category:				
Equity securities	$ 8,145	49%	$ 7,404	48%
Debt securities	7,260	43%	6,061	39%
Cash and cash equivalents	1,319	8%	1,488	9%
Other	-	0%	587	4%
Total	$ 16,724	100%	$ 15,540	100%

Financial reporting standards define a fair value hierarchy that consists of three levels. The fair values of the plan assets by fair value hierarchy level as of December 31, 2014 and 2013 is as follows:

	December 31,	
	2014	2013
	(in thousands)	
Quoted Prices in Active Markets for Identical Assets (Level 1)	$ 1,319	$ 1,488
Significant Other Observable Inputs (Level 2)	15,405	13,465
Significant Other Unobservable Inputs (Level 3)	-	587
Total	$ 16,724	$ 15,540

Level 1 assets consist of cash and cash equivalents held in the pension plans at December 31, 2014. The Level 2 assets primarily consist of investments in private investment funds that are valued using the net asset values provided by the trust or fund, including an insurance contract. Although these funds are not traded in an active market with quoted prices, the investments underlying the net asset value are based on quoted prices. Level 3 assets consist of an investment in a longevity fund which invests in a portfolio of physical life insurance settlements that are valued using the net asset values provided by the fund. Since June 2011, the fund has been closed to all activity. Due to the illiquidity and inactivity of the fund, during the year ended December 31, 2014, the Company wrote down its Level 3 investment by an additional $0.6 million, which reduced its value to $0.

The following table presents a summary of changes in the Company's Level 3 investments measured at fair value on a recurring basis:

	December 31,	
	2014	2013
	(in thousands)	
Balance at beginning of year	$ 587	$ 768
Purchases during the year	-	-
Unrealized loss	(587)	(181)
Balance at end of year	$ -	$ 587

The Company expects to contribute approximately $0.8 million to its pension plans during 2015.

The benefits expected to be paid from the pension plans are $0.5 million in 2015, $0.8 million in 2016, $0.6 million in 2017, $0.6 million in 2018 and $0.7 million in 2019. The expected benefits to be paid in the five years from 2020—2024 are $4.7 million. The expected benefits are based on the same assumptions used to measure the Company's benefit obligation at December 31, 2014.

17. Commitments and Contingent Liabilities

From time to time, the Company may be involved in various claims and legal proceedings arising in the ordinary course of business. The Company is not currently a party to any such material claims or proceedings.

18. Accumulated Other Comprehensive (Loss) Income

Changes in each component of accumulated other comprehensive (loss) income, net of tax are as follows:

(in thousands)	Foreign currency translation adjustments	Derivatives qualifying as hedges	Defined benefit pension plans	Total
Balance at December 31, 2012	$ (290)	$ -	$ (4,573)	$ (4,863)
Other comprehensive income (loss) before reclassifications	1,573	(116)	452	1,909
Amounts reclassified from AOCI	-	67	243	310
Net other comprehensive income (loss)	1,573	(49)	695	2,219
Balance at December 31, 2013	1,283	(49)	(3,878)	(2,644)
Other comprehensive (loss) income before reclassifications	(5,941)	(99)	114	(5,926)
Amounts reclassified from AOCI	-	130	207	337
Net other comprehensive (loss) income	(5,941)	31	321	(5,589)
Balance at December 31, 2014	$ (4,658)	$ (18)	$ (3,557)	$ (8,233)

The amounts reclassified out of accumulated other comprehensive (loss) income are as follows:

(in thousands)	Affected line item in the Statements of Operations	Year Ended December 31, 2014	2013	2012
Amounts Reclassified From AOCI				
Derivatives qualifying as hedges				
Realized loss on derivatives qualifying as hedges	Interest expense	$ 130	$ 67	$ -
Income tax	Income tax (benefit) expense	-	-	-
		130	67	-
Defined benefit pension plans				
Amortization of net losses included in net periodic pension costs	General and administrative expenses	259	305	248
Income tax	Income tax (benefit) expense	(52)	(62)	(57)
		207	243	191
Total reclassifications		$ 337	$ 310	$ 191

19. Capital Stock

Common Stock

On February 5, 2008, the Company's Board of Directors adopted a Shareholder Rights Plan and declared a dividend distribution of one preferred stock purchase right for each outstanding share of the Company's common stock to shareholders of record as of the close of business on February 6, 2008. Initially, these rights will not be exercisable and will trade with the shares of the Company's common stock. Under the Shareholder Rights Plan, the rights generally will become exercisable if a person becomes an "acquiring person" by acquiring 20% or more of the common stock of the Company or if a person commences a tender offer that could result in that person owning 20% or more of the common stock of the Company. If a person becomes an acquiring person, each holder of a right (other than the acquiring person) would be entitled to purchase, at the then-current exercise price, such number of shares of preferred stock which are equivalent to shares of the Company's common stock having a value of twice the exercise price of the right. If the Company is acquired in a merger or other business combination transaction

after any such event, each holder of a right would then be entitled to purchase, at the then-current exercise price, shares of the acquiring company's common stock having a value of twice the exercise price of the right.

Preferred Stock

The Company's Board of Directors has the authority to issue up to 5.0 million shares of preferred stock and to determine the price privileges and other terms of the shares. The Board of Directors may exercise this authority without any further approval of stockholders. As of December 31, 2014, the Company had no preferred stock issued or outstanding.

Employee Stock Purchase Plan

In 2000, the Company approved the ESPP. Under this ESPP, participating employees can authorize the Company to withhold a portion of their base pay during consecutive six-month payment periods for the purchase of shares of the Company's common stock. At the conclusion of the period, participating employees can purchase shares of the Company's common stock at 85% of the lower of the fair market value of the Company's common stock at the beginning or end of the period. Shares are issued under the ESPP for the six-month periods ending June 30 and December 31. Under this plan, 750,000 shares of common stock are authorized for issuance of which 585,188 shares were issued as of December 31, 2014. During the years ended December 31, 2014, 2013 and 2012, the Company issued 57,848, 56,938 and 60,028 shares, respectively, of the Company's common stock under the ESPP.

Stock-Based Payment Awards

The Company accounts for stock-based payment awards in accordance with the provisions of FASB ASC 718, which requires it to recognize compensation expense for all stock-based payment awards made to employees and directors including stock options, restricted stock units, and employee stock purchases related to the ESPP.

FASB ASC 718 requires companies to estimate the fair value of stock-based payment awards, except restricted stock units, on the date of grant using an option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as expense over the requisite service periods in its consolidated statements of income.

Upon adoption of FASB ASC 718, the Company elected to retain its method of valuation for stock-based payment awards, except restricted stock units, using the Black-Scholes option-pricing model. The determination of fair value of stock-based payment awards on the date of grant using an option-pricing model is affected by its stock price as well as assumptions regarding a number of highly complex and subjective variables. These variables include, but are not limited to its expected stock price volatility over the term of the awards and actual and projected stock option exercise behaviors. The Company records stock compensation expense on a straight-line basis over the requisite service period for all awards granted since the adoption of FASB ASC 718.

Stock Option Plans

1996 Stock Option and Grant Plan

In 1996, the Company adopted the 1996 Stock Option and Grant Plan (the "1996 Stock Plan") pursuant to which the Board of Directors could grant stock options to employees, directors and consultants. The 1996 Stock Plan authorized grants of options to purchase 4,072,480 shares of authorized but unissued common stock. In 2000, the 1996 Stock Plan was replaced by the 2000 Stock Option and Incentive Plan. As of December 31, 2014, there were no options to purchase shares outstanding under the 1996 Stock Plan.

Amended and Restated 2000 Stock Option and Incentive Plan

The Third Amended and Restated 2000 Stock Option and Incentive Plan (as amended, the "Plan") was adopted by the Board of Directors on April 13, 2011. Such amendment to the Plan was approved by the stockholders at the Company's 2011 Annual Meeting. The Plan made the following changes, among others, to the Second Amended and Restated 2000 Stock Option and Incentive Plan (the "Second A&R Plan"):

- the aggregate number of shares authorized for issuance under the Second A&R Plan was increased by 3,700,000 shares to 13,067,675 shares of Common Stock;

- the current limitation that no more than 3,750,000 shares of restricted stock awards, unrestricted stock awards, and performance share awards may be issued under the Second A&R Plan was replaced with a fungible share provision

deducting from shares available for grant under the Plan 1.79 shares for each share that underlies an award granted under the Company's Plan for deferred stock awards of restricted stock units, restricted stock awards, unrestricted stock awards, performance share awards or other awards under the Company's Plan for which the full value of such share is transferred by the Company to the award recipient; and

- other clarifying and updating changes.

The Company currently has 15,008,929 shares of its common stock reserved for the issuance of awards under the Plan, which includes the 13,067,675 shares described above plus the shares underlying the adjustment awards issued related to the spin-off of HART in accordance with the Plan. As of December 31, 2014, there were options to purchase 6,263,112 shares, and 306,397 restricted stock units outstanding.

Through December 31, 2014, 2013 and 2012, incentive stock options to purchase 10,218,057, 10,218,057 and 8,990,395 shares and non-qualified stock options to purchase 12,143,374, 11,028,074 and 8,906,684 shares, respectively, had been granted to employees and directors under the Stock Plans. Generally, both the incentive stock options and non-qualified stock options become fully vested over a range of one to four-year periods.

During the years ended December 31, 2014, 2013 and 2012, 1,115,300, 3,349,052 and 1,220,934 options, respectively, were granted to employees and directors at exercise prices equal to or greater than fair market value of the Company's common stock on the date of grant.

During the years ended December 31, 2014, 2013 and 2012, 116,400, 259,931 and 349,295 restricted stock units, respectively, were granted to certain employees and directors under the Plan.

Earnings per share

Basic earnings per share is based upon net income divided by the number of weighted average common shares outstanding during the period. The calculation of diluted earnings per share assumes conversion of stock options and restricted stock units into common stock using the treasury method. The weighted average number of shares used to compute basic and diluted earnings per share consists of the following:

	Year Ended December 31,		
	2014	**2013**	**2012**
Basic	32,170,683	30,384,010	28,799,377
Effect of assumed conversion of employee and director stock options and restricted stock units	1,065,886	1,529,789	992,730
Diluted	33,236,569	31,913,799	29,792,107

Excluded from the shares used in calculating the diluted earnings per common share in the above table are options to purchase approximately 2,526,441, 2,547,580 and 4,700,033 shares of common stock for the years ended December 31, 2014, 2013 and 2012, respectively, as the impact of these shares would be anti-dilutive.

General Option Information

The following is a summary of stock option and the restricted stock unit activity:

	Stock Options		Restricted Stock Units	
	Stock Options Outstanding	Weighted Average Exercise Price	Restricted Stock Units Outstanding	Grant Date Fair Value
Balance at December 31, 2011	8,519,575	$ 4.52	539,450	$ 4.32
Granted	1,220,934	3.60	349,295	3.57
Exercised	(648,000)	3.94	-	-
Vested (RSUs)	-	-	(164,090)	-
Cancelled / forfeited	(1,014,000)	6.36	(47,462)	4.21
Balance at December 31, 2012	8,078,509	4.25	677,193	3.97
Granted	3,349,052	4.44	259,931	4.62
Exercised	(3,410,483)	3.20	-	-
Vested (RSUs)	-	-	(281,650)	-
Cancelled / forfeited	(1,326,233)	5.26	(191,501)	4.07
Balance at December 31, 2013	6,690,845	3.42	463,973	4.32
Granted	1,115,300	4.18	116,400	4.12
Exercised	(695,173)	3.08	-	-
Vested (RSUs)	-	-	(233,098)	-
Cancelled / forfeited	(847,860)	4.67	(40,878)	4.36
Balance at December 31, 2014	6,263,112	$ 3.42	306,397	$ 4.30

For 2013 and included in the table above are grants of 1,715,164 options and 135,650 restricted stock units related to the spin-off of HART. Pursuant to the spin-off, share amounts and exercise prices of Harvard Bioscience options, as well as share amounts of Harvard Bioscience restricted stock units were adjusted so that the intrinsic value held by the holder pertaining to the existing option or award was maintained immediately following the spin-off.

The Company's policy is to issue stock available from its registered but unissued stock pool through its transfer agent to satisfy stock option exercises and vesting of the restricted stock units.

The following table summarizes information concerning currently outstanding and exercisable options as of December 31, 2014 (Aggregate Intrinsic Value, in thousands):

	Options Outstanding				Options Exercisable			
Range of Exercise Price	Shares Outstanding at Dec. 31, 2014	Weighted Average Remaining Contractual Life in Years	Weighted Average Exercise Price	Aggregate Intrinsic Value	Shares Exercisable at Dec. 31, 2014	Weighted Average Remaining Contractual Life in Years	Weighted Average Exercise Price	Aggregate Intrinsic Value
$ 1.43-2.15	253,654	3.58	$ 1.80	$ 982	253,654	3.58	$ 1.80	$ 982
2.28-2.28	927,715	4.39	2.28	3,145	927,715	4.39	2.28	3,145
2.45-2.45	6,586	0.43	2.45	21	6,586	0.43	2.45	21
2.56-2.56	776,155	7.08	2.56	2,414	374,256	7.08	2.56	1,164
2.59-3.54	567,417	3.35	3.08	1,470	567,417	3.35	3.08	1,470
3.64-3.64	713,170	8.00	3.64	1,448	213,765	8.00	3.64	434
3.71-3.99	451,166	2.69	3.88	808	431,166	2.38	3.88	772
4.04-4.04	717,449	6.05	4.04	1,169	568,483	6.05	4.04	927
4.07-4.10	16,000	9.36	4.08	25	-	-	-	-
4.12-4.89	1,833,800	9.13	4.24	2,622	76,875	8.90	4.31	105
$ 1.43-4.89	**6,263,112**	**6.47**	**$ 3.42**	**$ 14,104**	**3,419,917**	**4.79**	**$ 3.03**	**$ 9,020**

The aggregate intrinsic value in the preceding table represents the total pre-tax intrinsic value, based on the Company's closing stock price of $5.67 as of December 31, 2014, which would have been received by the option holders had all option holders exercised their options as of that date. The weighted average exercise prices above were adjusted to reflect the effect of the spin-off of HART on the Company's outstanding options. Pursuant to the spin-off, share amounts and exercise prices of Harvard Bioscience options were adjusted so that the intrinsic value held by the holder pertaining to the existing option was maintained immediately following the spin-off. The aggregate intrinsic value of options exercised for the years ended December 31, 2014, 2013 and 2012 was approximately $1.8 million, $5.1 million and $0.3 million, respectively. The total number of in-the-money options that were exercisable as of December 31, 2014 was 3,419,917.

For the year ended December 31, 2014, the total compensation costs related to unvested awards not yet recognized is $3.5 million and the weighted average period over which it is expected to be recognized is 2.18 years.

Valuation and Expense Information under Stock-Based-Payment Accounting

Stock-based compensation expense related to stock options, restricted stock units and the employee stock purchase plan for the years ended December 31, 2014, 2013 and 2012 was allocated as follows:

	Year Ended December 31,		
	2014	2013	2012
		(in thousands)	
Cost of product revenues	$ 132	$ 131	$ 87
Sales and marketing	343	223	154
General and administrative	1,620	2,200	2,990
Research and development	61	45	25
Discontinued operations	-	71	65
Total stock-based compensation	$ 2,156	$ 2,670	$ 3,321

The Company did not capitalize any stock-based compensation.

The weighted-average estimated fair value per share of stock options granted during 2014, 2013 and 2012 was $2.18, $2.41 and $1.84, respectively, using the Black Scholes option-pricing model with the following weighted-average assumptions:

	Year Ended December 31,		
	2014	2013	2012
Volatility	55.78 %	57.18 %	55.09 %
Risk-free interest rate	1.80 %	1.42 %	0.80 %
Expected holding period (in years)	5.76 years	5.67 years	5.98 years
Dividend Yield	- %	- %	- %

The Company used historical volatility to calculate the expected volatility as of December 31, 2014. Historical volatility was determined by calculating the mean reversion of the daily adjusted closing stock price. The risk-free interest rate assumption is based upon observed U.S. Treasury bill interest rates (risk-free) appropriate for the term of the Company's stock options. The expected holding period of stock options represents the period of time options are expected to be outstanding and were based on historical experience. The vesting period ranges from one to four years and the contractual life is ten years.

Stock-based compensation expense recognized in the consolidated statements of operations for the years ended December 31, 2014, 2013 and 2012 is based on awards ultimately expected to vest and has been reduced for annualized estimated forfeitures of 7.05%, 6.54% and 5.38%, respectively. Stock-based-payment accounting requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Forfeitures were estimated based on historical experience.

20. Related Party Transactions

In connection with the HART spin-off, the Company entered into various commercial agreements with HART. These agreements include: (i) a Separation and Distribution Agreement to effect the separation and spin-off distribution and provide other agreements to govern the Company's relationship with HART after the spin-off; (ii) an Intellectual Property Matters Agreement, which governs various intellectual property related arrangements between the Company and HART, including the

separation of intellectual property rights between the Company and HART, as well as certain related cross-licenses between the two companies; (iii) a Product Distribution Agreement, which provides that each company will become the exclusive distributor for the other party for products such other party develops for sale in the markets served by the other; (iv) a Tax Sharing Agreement, which governs the Company's and HART's respective rights, responsibilities and obligations with respect to tax liabilities and benefits, tax attributes, the preparation and filing of tax returns, the control of audits and other tax proceedings and other matters regarding taxes for periods before, during and after the spin-off; and (v) a Transition Services Agreement, which provides for certain services to be performed on a transitional basis by the Company to facilitate HART's transition into a separate public reporting company. As part of the Transition Services Agreement, the Company provided certain support services to HART, for up to one year following the spin-off date, including, among others, accounting, payroll, human resources and information technology services, with the charges for the transition services generally intended to allow the Company to fully recover the costs directly associated with providing the services, plus all out-of-pocket costs and expenses. The Transition Services Agreement expired on November 1, 2014.

The Company recorded revenues of approximately $0.2 million and $0.1 million for the years ended December 31, 2014 and 2013, respectively, as a result of the exclusive distribution rights pursuant to the Product Distribution Agreement. The Company's operating expenses were reduced by $0.1 million for both years ended December 31, 2014 and 2013 as a result of the fees the Company charged to HART for services provided pursuant to the Transition Services Agreement. In addition, the Company's rent expense was reduced by $0.2 million and $26,000 for the years ended December 31, 2014 and 2013, respectively, as a result of sublease rent charged to HART pursuant to a sublease between the two companies.

David Green, who is currently a Director of the Company and was also formerly the Company's President and interim CEO, is currently the Chairman and CEO of HART.

As part of the acquisitions of MCS and TBSI, the Company signed lease agreements with the former owners of the acquired companies. The principals of such former owners are currently employees of the Company. Pursuant to the lease agreements, the Company incurred rent expense of approximately $62,000 and $11,000 to the former owners of MCS and TBSI, respectively, for the year ended December 31, 2014.

21. Segment and Related Information

Operating segments are determined by products and services provided by each segment, internal organization structure, the manner in which operations are managed, criteria used by the Chief Operating Decision Maker ("CODM") to assess the segment performance, as well as resource allocation and the availability of discrete financial information. Following the spin-off of HART, the Company's former Regenerative Medicine Device ("RMD") segment, the Company has one operating segment. As such, segment results and consolidated results are the same.

The following tables summarize selected financial information of the Company's continuing operations by geographic location:

Revenues originating from the following geographic areas consist of:

	Year Ended December 31,		
	2014	2013	2012
		(in thousands)	
United States	$ 63,727	$ 63,810	$ 65,190
United Kingdom	24,754	23,123	27,137
Rest of the world	20,182	18,238	18,844
Total revenues	$ 108,663	$ 105,171	$ 111,171

Long-lived assets by geographic area consist of the following:

	December 31,	
	2014	2013
	(in thousands)	
United States	$ 14,335	$ 14,128
United Kingdom	1,698	2,343
Rest of the world	10,310	6,913
Total long-lived assets (1)	$ 26,343	$ 23,384

(1) Total long-lived assets includes property, plant and equipment, net and amortizable intangible assets, net.

Net assets by geographic area consist of the following:

	December 31,	
	2014	2013
	(in thousands)	
United States	$ 43,556	$ 37,497
United Kingdom	15,607	32,214
Rest of the world	36,305	24,774
Total net assets	$ 95,468	$ 94,485

22. Allowance for Doubtful Accounts

Allowance for doubtful accounts is based on the Company's assessment of the collectability of customer accounts. A rollforward of allowance for doubtful accounts is as follows:

	Beginning Balance	Charged (credited) to Bad Debt Expense (Recoveries)	Charged to Allowance (1)	Other (2)	Ending Balance
			(in thousands)		
Year ended December 31, 2012	$ 302	(31)	(77)	-	$ 194
Year ended December 31, 2013	$ 194	172	(8)	-	$ 358
Year ended December 31, 2014	$ 358	(67)	56	(19)	$ 328

(1) Consists of accounts written off, net of recoveries.

(2) Consists of the effect of currency translation.

23. Warranties

Warranties are estimated and accrued at the time revenues are recorded. A rollforward of product warranties is as follows:

	Beginning Balance	Payments	Additions	Ending Balance
		(in thousands)		
Year ended December 31, 2012	$ 144	(136)	214	$ 222
Year ended December 31, 2013	$ 222	(179)	262	$ 305
Year ended December 31, 2014	$ 305	(102)	49	$ 252

24. Quarterly Financial Information (unaudited)

The following quarterly 2014 and 2013 financial information has been restated to reflect HART's operations as discontinued operations for all periods presented. The operations of HART have been combined with the Company's other discontinued operations.

Statement of Operations Data:

2014	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Fiscal Year
	(in thousands, except per share data)				
Revenues	$ 25,893	$ 26,958	$ 25,448	$ 30,364	$ 108,663
Cost of revenues	14,132	14,680	14,006	16,501	59,319
Gross profit	11,761	12,278	11,442	13,863	49,344
Total operating expenses	10,427	10,540	10,017	11,742	42,726
Operating income	1,334	1,738	1,425	2,121	6,618
Other expense, net	(315)	(468)	(469)	(949)	(2,201)
Income from continuing operations before income taxes	1,019	1,270	956	1,172	4,417
Income tax expense	300	248	323	1,191	2,062
Income from continuing operations	719	1,022	633	(19)	2,355
Net income	$ 719	$ 1,022	$ 633	$ (19)	$ 2,355
Earnings per share:					
Basic earnings per common share from continuing operations	$ 0.02	$ 0.03	$ 0.02	$ -	$ 0.07
Basic earnings per common share	$ 0.02	$ 0.03	$ 0.02	$ -	$ 0.07
Diluted earnings per common share from continuing operations	$ 0.02	$ 0.03	$ 0.02	$ -	$ 0.07
Diluted earnings per common share	$ 0.02	$ 0.03	$ 0.02	$ -	$ 0.07

Statement of Operations Data:

2013	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Fiscal Year
	(in thousands, except per share data)				
Revenues	$ 26,086	$ 26,094	$ 25,137	$ 27,854	$ 105,171
Cost of revenues	13,826	14,005	13,838	15,806	57,475
Gross profit	12,260	12,089	11,299	12,048	47,696
Total operating expenses	10,934	11,343	10,885	12,997	46,159
Operating income (loss)	1,326	746	414	(949)	1,537
Other expense, net	(95)	(330)	(358)	(319)	(1,102)
Income (loss) from continuing operations before income taxes	1,231	416	56	(1,268)	435
Income tax expense (benefit)	299	321	105	(1,013)	(288)
Income (loss) from continuing operations	932	95	(49)	(255)	723
Loss from discontinued operations, net of tax	(836)	(281)	(935)	(501)	(2,553)
Net income (loss)	$ 96	$ (186)	$ (984)	$ (756)	$ (1,830)
Earnings (loss) per share:					
Basic earnings (loss) per common share from continuing operations	$ 0.03	$ -	$ -	$ (0.01)	$ 0.02
Discontinued operations	(0.03)	(0.01)	(0.03)	(0.01)	(0.08)
Basic earnings (loss) per common share	$ -	$ (0.01)	$ (0.03)	$ (0.02)	$ (0.06)
Diluted earnings (loss) per common share from continuing operations	$ 0.03	$ -	$ -	$ (0.01)	$ 0.02
Discontinued operations	(0.03)	(0.01)	(0.03)	(0.01)	(0.08)
Diluted earnings (loss) per common share	$ -	$ (0.01)	$ (0.03)	$ (0.02)	$ (0.06)

25. Subsequent Event

HEKA Elektronik

On January 8, 2015, the Company, through its wholly-owned Multi Channel Systems MCS GmbH subsidiary, acquired all of the issued and outstanding shares of HEKA Elektronik ("HEKA") for approximately $6.0 million. Included in the acquisition of HEKA are: HEKA Electronik Dr. Schulze GmbH, based in Lambrecht, Germany; HEKA Electronics Incorporated, based in Chester, Nova Scotia, Canada; and HEKA Instruments Incorporated, based in Bellmore, New York. The Company funded the acquisition from its existing cash balances.

HEKA is a developer, manufacturer and marketer of sophisticated electrophysiology instrumentation and software for biomedical and industrial research applications. This acquisition is complementary to the electrophysiology line currently offered by the Company's wholly-owned Warner Instruments and MCS subsidiaries.

The Company is in the process of determining the fair value of the various tangible and intangible assets acquired as a result of this acquisition.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by undersigned thereunto duly authorized.

HARVARD BIOSCIENCE, INC.

Date: March 12, 2015

By: /s/ JEFFREY A. DUCHEMIN
Jeffrey A. Duchemin
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Signature	Title	Date
/s/ JEFFREY A. DUCHEMIN **Jeffrey A. Duchemin**	Chief Executive Officer and Director (Principal Executive Officer)	March 12, 2015
/s/ ROBERT E. GAGNON **Robert E. Gagnon**	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 12, 2015
/s/ ROBERT DISHMAN **Robert Dishman**	Director	March 12, 2015
/s/ DAVID GREEN **David Green**	Director	March 12, 2015
/s/ NEAL J. HARTE **Neal J. Harte**	Director	March 12, 2015
/s/ JOHN F. KENNEDY **John F. Kennedy**	Director	March 12, 2015
/s/ EARL R. LEWIS **Earl R. Lewis**	Director	March 12, 2015
/s/ BERTRAND LOY **Bertrand Loy**	Director	March 12, 2015
/s/ GEORGE UVEGES **George Uveges**	Director	March 12, 2015

EXHIBIT INDEX

The following exhibits are filed as part of this Annual Report on Form 10-K. Where such filing is made by incorporation by reference to a previously filed document, such document is identified.

(5)	2.1	Asset Purchase Agreement, dated September 30, 2008, by and among Harvard Bioscience, Inc., as Parent, Union Biometrica, Inc., as Seller, and UBIO Acquisition Company, as Buyer.
(12)	2.2	Asset Purchase Agreement, dated September 2, 2009, by and among Harvard Bioscience, Inc., as Parent, and DAC Acquisition Holding, Inc., as Purchaser, Denville Scientific, Inc., as Seller, and Walter Demsia and Ryan Sharp, as Shareholders.
(22)	2.3	Separation and Distribution Agreement between Harvard Bioscience, Inc. and Harvard Apparatus Regenerative Technology, Inc. dated as of October 31, 2013.
	2.4*	Share Purchase Agreement between Biochrom Limited, as Buyer, and Multi Channel Systems Holding GmbH, as Seller, dated as of October 1, 2014.
(27)	2.5	Stock Purchase Agreement by and among Harvard Bioscience, Inc., as Buyer, Triangle BioSystems, Inc., and the sellers party thereto dated as of October 1, 2014.
(28)	2.6	Agreement for the Sale and Purchase of All Shares in HEKA GmbH by and among Multi Channel Systems MCS GmbH, as Purchaser, Dr. Peter Schulze GmbH & Co. KG, as Seller, and Dr. Peter Schulze, as Guarantor, dated as of January 8, 2015.
(28)	2.7	Agreement for the Sale and Purchase of All Shares in HEKA Canada between Ealing Scientific Limited, as Purchaser, and Dr. Peter Schulze, as Seller, dated as of January 8, 2015
(1a)	3.1	Second Amended and Restated Certificate of Incorporation of Harvard Bioscience, Inc.
(1a)	3.2	Amended and Restated By-laws of Harvard Bioscience, Inc.
(2)	3.3	Amendment No. 1 to Amended and Restated Bylaws of Harvard Bioscience, Inc. (as adopted October 30, 2007).
(6)	3.4	Certificate of Designations, Preferences and Rights of a Series of Preferred Stock of Harvard Bioscience, Inc. classifying and designating the Series A Junior Participating Cumulative Preferred Stock.
(1a)	4.1	Specimen certificate for shares of Common Stock, $0.01 par value, of Harvard Bioscience, Inc.
(1b)	4.2	Amended and Restated Securityholders' Agreement dated as of March 2, 1999 by and among Harvard Apparatus, Inc., Pioneer Partnership II, Pioneer Capital Corp., First New England Capital, L.P. and Citizens Capital, Inc. and Chane Graziano and David Green.
(6/7)	4.3	Shareholders Rights Agreement, dated as of February 5, 2008 between Harvard Bioscience, Inc., and Registrar and Transfer Company, as Rights Agent.
(1b)	10.1	Harvard Apparatus, Inc. 1996 Stock Option and Grant Plan.
(17)	10.2	Harvard Bioscience, Inc. Third Amended and Restated 2000 Stock Option and Incentive Plan.
(1a)	10.3	Harvard Bioscience, Inc. Employee Stock Purchase Plan.
# (14)	10.4	Amended and Restated Employment Agreement between Harvard Bioscience, Inc. and Chane Graziano, dated December 18, 2008.
# (14)	10.5	Amended and Restated Employment Agreement between Harvard Bioscience, Inc. and David Green, dated December 18, 2008.
(1b)	10.6	Form of Director Indemnification Agreement.

(14)	10.7	Lease of Unit 22 Phase I Cambridge Science Park, Milton Road, Cambridge dated May 8, 2008 between The Master Fellows and Scholars of Trinity College Cambridge and Biochrom Limited.
# (14)	10.8	Amended and Restated Employment Agreement between Harvard Bioscience, Inc. and Susan Luscinski dated December 18, 2008.
+(4)	10.9	Strategic Supplier Alliance Agreement, dated April 10, 2008, by and between Biochrom Limited and GE Healthcare Biosciences, Corp.
(11)	10.10	Lease, dated February 23, 2004, by and between William Cash Forman and Hoefer, Inc.
+(8)	10.11	Trademark License Agreement, dated December 9, 2002, by and between Harvard Bioscience, Inc. and President and Fellows of Harvard College.
(9)	10.12	Lease Agreement Between Seven October Hill, LLC and Harvard Bioscience, Inc. dated December 30, 2005.
(10)	10.13	Form of Incentive Stock Option Agreement (Executive Officers).
(10)	10.14	Form of Non-Qualified Stock Option Agreement (Executive Officers).
(10)	10.15	Form of Non-Qualified Stock Option Agreement (Non-Employee Directors).
# (3)	10.16	Employment Agreement Between Harvard Bioscience, Inc. and Thomas McNaughton, dated November 14, 2008.
(13)	10.17	Amended and Restated Revolving Credit Loan Agreement, dated as of August 7, 2009, by and among Harvard Bioscience, Inc. and the Lenders from time to time party thereto, including Bank of America, N.A. (both in its capacity as "Lender" and in its capacity as "Agent"), and Brown Brothers Harriman & Co.
(15)	10.18	Amendment No. 2, dated as of May 22, 2010, to Lease Agreement, as subsequently amended, between Seven October Hill LLC and Harvard Bioscience, Inc.
(16)	10.19	Form of Deferred Stock Award Agreement under the Harvard Bioscience, Inc.
	10.20*	Director Compensation Arrangements.
(24)	10.21	Amendment No. 1 to the Harvard Bioscience, Inc. Employee Stock Purchase Plan, effective as of January 1, 2012.
(24)	10.22	First Amendment to Harvard Bioscience, Inc. Third Amended and Restated 2000 Stock Option and Incentive Plan, effective as of March 9, 2013.
(18)	10.23	Second Amended and Restated Revolving Credit Agreement, dated as of March 29, 2013, by and among Harvard Bioscience, Inc. and the Lenders from time to time party thereto, including Bank of America, N.A. and Brown Brothers Harriman & Co.
(24)	10.24	Amendment No. 2 to the Harvard Bioscience, Inc. Employee Stock Purchase Plan, effective as of May 23, 2013.
(24)	10.25	First Amendment to Second Amended and Restated Credit Agreement dated as of May 30, 2013, with an effective date as of April 30, 2013, by and among Harvard Bioscience, Inc. Bank of America, N.A. and Brown Brothers Harriman & Co.
# (19)	10.26	Employment Agreement, dated August 26, 2013, between Harvard Bioscience, Inc. and Jeffrey A. Duchemin.
# (20)	10.27	Offer letter dated September 30, 2013 between Harvard Bioscience, Inc. and Yoav Sibony.
# (20)	10.28	Offer letter dated September 30, 2013 between Harvard Bioscience, Inc. and Yong Sun.
# (21)	10.29	Employment Agreement, dated October 2, 2013, between Harvard Bioscience, Inc. and Robert E. Gagnon.

(24)	10.30	Second Amendment to Second Amended and Restated Credit Agreement and Waiver dated as of October 31, 2013, by and among Harvard Bioscience, Inc. Bank of America, N.A. and Brown Brothers Harriman & Co.
(22)	10.31	Intellectual Property Matters Agreement between Harvard Bioscience, Inc. and Harvard Apparatus Regenerative Technology, Inc. dated as of October 31, 2013.
(22)	10.32	Product Distribution Agreement between Harvard Bioscience, Inc. and Harvard Apparatus Regenerative Technology, Inc. dated as of October 31, 2013.
(22)	10.33	Tax Sharing Agreement between Harvard Bioscience, Inc. and Harvard Apparatus Regenerative Technology, Inc. dated as of October 31, 2013.
(22)	10.34	Transition Services Agreement between Harvard Bioscience, Inc. and Harvard Apparatus Regenerative Technology, Inc. dated as of October 31, 2013.
(22)	10.35	Waiver Relating to the Employment Agreement between Harvard Bioscience, Inc. and David Green dated as of October, 31, 2013 between Harvard Bioscience, Inc. and David Green.
(22)	10.36	Waiver Relating to the Employment Agreement between Harvard Bioscience, Inc. and Thomas McNaughton dated as of October, 31, 2013 between Harvard Bioscience, Inc. and Thomas McNaughton.
# (25)	10.37	Amendment to Employment Agreement between Harvard Bioscience, Inc. and Jeffrey A. Duchemin, effective July 30, 2014.
# (25)	10.38	Amendment to Employment Agreement between Harvard Bioscience, Inc. and Robert E. Gagnon, effective July 30, 2014.
(26)	10.39	Amendment No. 3, dated as of May 30, 2014, to Lease Agreement, as subsequently amended, between Seven October Hill LLC and Harvard Bioscience, Inc.
	21.1*	Subsidiaries of the Registrant.
	23.1*	Consent of KPMG LLP.
	31.1*	Certification of Chief Financial Officer of Harvard Bioscience, Inc., pursuant to Rules 13a-15(e) and 15d-15(e), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
	31.2*	Certification of Chief Executive Officer of Harvard Bioscience, Inc., pursuant to Rules 13a-15(e) and 15d-15(e), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
	32.1**	Certification of Chief Financial Officer of Harvard Bioscience, Inc., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
	32.2**	Certification of Chief Executive Officer of Harvard Bioscience, Inc., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
	101.INS*	XBRL Instance Document
	101.SCH*	XBRL Taxonomy Extension Schema Document
	101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
	101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
	101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
	101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

(1a) Previously filed as an exhibit to the Company's Registration Statement on Form S-1/A (File No. 333-45996) (filed on November 9, 2000) and incorporated by reference thereto.

(1b) Previously filed as an exhibit to the Company's Registration Statement on Form S-1/A (File No. 333-45996) (filed on October 25, 2000) and incorporated by reference thereto.

(2) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed on November 1, 2007) and incorporated by reference thereto.

(3) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed November 18, 2008) and incorporated by reference thereto.

(4) Previously filed as an exhibit to the Company's Quarterly Report on Form 10-Q/A, as amended (filed February 19, 2009) and incorporated by reference thereto.

(5) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed on October 6, 2008) and incorporated by reference thereto.

(6) Previously filed as an exhibit to the Company's Registration Statement on Form 8-A (filed February 8, 2008) and incorporated by reference thereto.

(7) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed on February 8, 2008) and incorporated by reference thereto.

(8) Previously filed as an exhibit to the Company's Quarterly Report on Form 10-Q (filed May 15, 2003) and incorporated by reference thereto.

(9) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed January 4, 2006) and incorporated by reference thereto.

(10) Previously filed as an exhibit to the Company's Annual Report on Form 10-K (filed March 16, 2006) and incorporated by reference thereto.

(11) Previously filed as an exhibit to the Company's Annual Report on Form 10-K (filed March 15, 2004) and incorporated by reference thereto.

(12) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed September 9, 2009) and incorporated by reference thereto.

(13) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed August 13, 2009) and incorporated by reference thereto.

(14) Previously filed as an exhibit to the Company's Annual Report on Form 10-K (filed March 11, 2009) and incorporated by reference thereto.

(15) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed June 3, 2010) and incorporated by reference thereto.

(16) Previously filed as an exhibit to the Company's Annual Report on Form 10-K (filed March 16, 2011) and incorporated by reference thereto.

(17) Previously disclosed in the Company's Proxy Statement on Schedule 14A (filed April 15, 2011) and incorporated by reference thereto.

(18) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed April 3, 2013) and incorporated by reference thereto.

(19) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed August 29, 2013) and incorporated by reference thereto.

(20) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed February 19, 2014) and incorporated by reference thereto.

(21) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed October 16, 2013) and incorporated by reference thereto.

(22) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed November 6, 2013) and incorporated by reference thereto.

(24) Previously filed as an exhibit to the Company's Annual Report on Form 10-K (filed March 14, 2014) and incorporated by reference thereto.

(25) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed July 31, 2014) and incorporated by reference thereto.

(26) Previously filed as an exhibit to the Company's Quarterly Report on Form 10-Q (filed August 7, 2014) and incorporated by reference thereto.

(27) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed October 1, 2014) and incorporated by reference thereto.

(28) Previously filed as an exhibit to the Company's Current Report on Form 8-K (filed January 9, 2015) and incorporated by reference thereto.

\+ Certain portions of this document have been granted confidential treatment by the Securities and Exchange Commission (the "Commission").

* Filed with this Form 10-K.

** This certification shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section, nor shall it be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.

\# Management contract or compensatory plan or arrangement.

§ The schedules and exhibits to the Separation and Distribution Agreement have been omitted. A copy of any omitted schedule or exhibit will be furnished to the SEC supplementally upon request.

The Company will furnish to stockholders a copy of any exhibit without charge upon written request.

Exhibit 21.1

Subsidiaries of the Registrant

Warner Instruments LLC (United States)
Hoefer, Inc. (United States)
KD Scientific, Inc. (United States)
Biochrom US, Inc. (United States)
Denville Scientific, Inc. (United States)
Cartesian Technologies, Inc. (United States)
Harvard Apparatus Limited (United Kingdom)
Biochrom Limited (United Kingdom)
Scie-Plas Ltd. (United Kingdom)
Walden Precision Apparatus Ltd. (United Kingdom)
Harvard Apparatus, S.A.R.L. (France)
Asys Hitech GmbH (Austria)
Hugo Sachs Elektronik Harvard Apparatus GmbH (Germany)
Ealing Scientific Limited (doing business as Harvard Apparatus, Canada) (Canada)
Panlab S.L. (Spain)
FKA GSI US, Inc. (formerly Genomic Solutions, Inc.) (United States)
FKAUBI, Inc. (formerly Union Biometrica, Inc.) (United States)
Genomic Solutions Canada, Inc. (United States)
Coulbourn Instruments, LLC (United States)
CMA Microdialysis AB (Sweden)
AHN Biotechnologie GmbH (Germany)
AHN Acquisition GmbH (Germany)
BioDrop Ltd. (United Kingdom)
Multi Channel Systems MCS GmbH (Germany)
Triangle BioSystems, Inc. (United States)
HEKA Electronik Dr. Schulze GmbH (Germany)
HEKA Electronics Incorporated (Canada)
HEKA Instruments Incorporated (United States)

EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Harvard Bioscience, Inc.:

We consent to the incorporation by reference in the Registration Statement Numbers 333-53848, 333-104544, 333-135418, 333-151003, 333-174476 and 333-189175 on Form S-8 of Harvard Bioscience, Inc. and subsidiaries of our reports dated March 12, 2015, with respect to the consolidated balance sheets of Harvard Bioscience, Inc. as of December 31, 2014 and 2013, and the related consolidated statements of operations, comprehensive (loss) income, stockholders' equity and cash flows for each of the years in the three-year period ended December 31, 2014, and the effectiveness of internal control over financial reporting as of December 31, 2014, which reports appear in the December 31, 2014 annual report on Form 10-K of Harvard Bioscience, Inc.

Our report dated March 12, 2015, on the effectiveness of internal control over financial reporting as of December 31, 2014, contains an explanatory paragraph that states Harvard Bioscience, Inc. acquired MCS and TBSI during 2014, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2014, MCS's and TBSI's internal control over financial reporting associated with total assets of $15.4 million (of which $9.9 million represents goodwill and intangibles included within the scope of the assessment) and total revenues of $2.5 million in the consolidated financial statements of the Company as of and for the year ended December 31, 2014. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of MCS and TBSI.

/s/ KPMG LLP

Boston, Massachusetts
March 12, 2015

EXHIBIT 31.1

Certification

I, Robert E. Gagnon, certify that:

1. I have reviewed this annual report on Form 10-K of Harvard Bioscience, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 12, 2015

/s/ ROBERT E. GAGNON
Robert E. Gagnon
Chief Financial Officer

EXHIBIT 31.2

Certification

I, Jeffrey A. Duchemin, certify that:

1. I have reviewed this annual report on Form 10-K of Harvard Bioscience, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonable likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 12, 2015

/s/ JEFFREY A. DUCHEMIN
Jeffrey A. Duchemin
Chief Executive Officer

EXHIBIT 32.1

CERTIFICATION OF PERIODIC FINANCIAL REPORT
PURSUANT TO 18 U.S.C. SECTION 1350

The undersigned officer of Harvard Bioscience, Inc. (the "Company") hereby certifies to his knowledge that the Company's annual report on Form 10-K for the year ended December 31, 2014 to which this certification is being furnished as an exhibit (the "Report"), as filed with the Securities and Exchange Commission on the date hereof, fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company. This certification is provided solely pursuant to 18 U.S.C. Section 1350 and Item 601(b)(32) of Regulation S-K ("Item 601(b)(32)") promulgated under the Securities Act of 1933, as amended (the "Securities Act"), and the Exchange Act. In accordance with clause (ii) of Item 601(b)(32), this certification (A) shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and (B) shall not be deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.

Date: March 12, 2015

/s/ ROBERT E. GAGNON
Name: Robert E. Gagnon
Title: Chief Financial Officer

EXHIBIT 32.2

CERTIFICATION OF PERIODIC FINANCIAL REPORT
PURSUANT TO 18 U.S.C. SECTION 1350

The undersigned officer of Harvard Bioscience, Inc. (the "Company") hereby certifies to his knowledge that the Company's annual report on Form 10-K for the year ended December 31, 2014 to which this certification is being furnished as an exhibit (the "Report"), as filed with the Securities and Exchange Commission on the date hereof, fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company. This certification is provided solely pursuant to 18 U.S.C. Section 1350 and Item 601(b)(32) of Regulation S-K ("Item 601(b)(32)") promulgated under the Securities Act of 1933, as amended (the "Securities Act"), and the Exchange Act. In accordance with clause (ii) of Item 601(b)(32), this certification (A) shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and (B) shall not be deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.

Date: March 12, 2015

/s/ JEFFREY A. DUCHEMIN
Name: Jeffrey A. Duchemin
Title: Chief Executive Officer

Exhibit 1

Harvard Bioscience, Inc.

Reconciliation of US GAAP Income from Continuing Operations to Non-GAAP Adjusted Income from Continuing Operations (unaudited)

	For the Year Ended December 31,				
	2010	**2011**	**2012**	**2013**	**2014**
US GAAP income from continuing operations	$ 19,638	$ 5,289	$ 4,494	$ 723	$ 2,355
Adjustments:					
Amortization of intangible assets	2,364	2,746	2,752	2,590	2,578
Inventory valuation step-up charges on acquisition	–	–	–	–	263
Inventory write-down	169	76	74	–	–
Acquisition costs	310	699	308	5	1,144
Gain on acquisition contingencies	(429)	–	–	–	–
HART transaction costs	–	161	696	2,048	–
Restructuring and severance related expenses	498	640	310	2,150	1,647
Stock-based compensation expense	2,756	2,819	3,257	2,599	2,156
Accounts receivable reserve adjustment related to acquisition	(237)	–	–	–	–
Income taxes	(14,191)	(2,614)	(1,671)	(3,053)	(1,250)
Non-GAAP adjusted income from continuing operations	$ 10,878	$ 9,816	$ 10,220	$ 7,062	$ 8,893

Exhibit 2

Harvard Bioscience, Inc.

Reconciliation of US GAAP Diluted Earnings Per Common Share from Continuing Operations to Non-GAAP Adjusted Diluted Earnings Per Common Share from Continuing Operations (unaudited)

	For the Year Ended December 31,				
	2010	**2011**	**2012**	**2013**	**2014**
US GAAP earnings per diluted share from continuing operations	$ 0.67	$ 0.18	$ 0.15	$ 0.02	$ 0.07
Adjustments:					
Amortization of intangible assets	0.08	0.09	0.09	0.08	0.08
Inventory valuation step-up charges on acquisition	–	–	–	–	0.01
Inventory write-down	0.01	–	–	–	–
Acquisition costs	0.01	0.02	0.01	–	0.03
Gain on acquisition contingencies	(0.02)	–	–	–	–
HART transaction costs	–	0.01	0.02	0.06	–
Restructuring and severance related expenses	0.02	0.02	0.01	0.07	0.05
Stock-based compensation expense	0.09	0.09	0.11	0.08	0.06
Accounts receivable reserve adjustment related to acquisition	(0.01)	–	–	–	–
Income taxes	(0.48)	(0.08)	(0.05)	(0.09)	(0.03)
Non-GAAP adjusted earnings per diluted share from continuing operations	$ 0.37	$ 0.33	$ 0.34	$ 0.22	$ 0.27

Forward-Looking Statements

This Annual Report contains forward-looking statements. In some cases, you can identify forward-looking statements by terms such as "capitalize," "increase," "guidance," "objectives," "emerging," "long-term," "growth," "potential," "future," "expects," "plans," "achieve," "could," "will," "lead," "opportunity," "estimate," "continue," "strategy," "intend," "believe,""see," "may," "should," "would," "seek," "aim," "anticipates," "projects," "predicts," "think," "optimistic," "new," "goal" and similar expressions. These statements include, but are not limited to, statements or inferences about our beliefs, plans or objectives, management's confidence or expectations, our business strategy and ability to execute such strategy, the outlook for the life sciences industry, and our positioning for growth and market demand.

These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about management's confidence or expectations, our business strategy, our ability to raise capital or borrow funds to consummate acquisitions and the availability of attractive acquisition candidates, our expectations regarding future costs of product revenues, our anticipated compliance with the covenants contained in our credit facility, the adequacy of our financial resources and our plans, objectives, expectations and intentions that are not historical facts, plus factors described under the heading "Part I, Item 1A. Risk Factors" in our 2014 Annual Report on Form 10-K or in our other public filings.

Dr. James Morizio

Dr. James Morizio founded Triangle BioSystems, Inc. (TBSI) in 2001. TBSI is a developer, manufacturer and marketer of wireless neural interface equipment to aid in vivo neuroscience research. Prior to founding TBSI, Dr. Morizio held progressive positions in engineering at both IBM and Mitsubishi Semiconductor. He is currently an Adjunct Associate professor at Duke University and Director of R&D at Harvard Bioscience. Dr. Morizio holds a B.S. in electrical engineering from Virginia Polytechnic Institute, a M.S. in electrical engineering from the University of Colorado and a Ph.D. in electrical engineering from Duke University.

Solutions to Advance Life Science

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