UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

[X] Quarterly report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the quarterly period ended September 30, 2013

[ ] 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 **(State or Other Jurisdiction of Incorporation or Organization)**	**04-3306140** **(IRS Employer Identification No.)**
84 October Hill Road, Holliston, MA **(Address of Principal Executive Offices)**	**01746** **(Zip Code)**

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

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. [X] 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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). [X] YES [ ] NO

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.

Large accelerated filer [ ]	Accelerated filer [X]
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 [X] NO

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

As of November 1, 2013, there were 31,010,105 shares of common stock, par value $0.01 per share, outstanding.

HARVARD BIOSCIENCE, INC.

Form 10-Q
For the Quarter Ended September 30, 2013

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PART I. FINANCIAL INFORMATION

Financial Statements.

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(Unaudited, in thousands, except share and per share amounts)

	September 30, 2013	December 31, 2012
Assets		
Current assets:		
Cash and cash equivalents	$ 36,931	$ 20,681
Accounts receivable, net of allowance for doubtful accounts of $253 and $194, respectively	13,361	14,357
Inventories	18,028	17,762
Deferred income taxes	1,556	1,553
Other receivables and other assets	4,059	4,619
Total current assets	73,935	58,972
Property, plant and equipment, net	4,621	4,551
Deferred income taxes	12,487	10,770
Amortizable intangible assets, net	19,347	21,225
Goodwill	36,318	36,200
Other indefinite lived intangible assets	1,283	1,276
Other assets	346	490
Total assets	$ 148,337	$ 133,484
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 4,657	$ 4,680
Deferred revenue	632	482
Accrued income taxes payable	194	506
Accrued expenses	4,372	3,505
Current portion of long-term debt	3,000	-
Other liabilities - current	640	728
Total current liabilities	13,495	9,901
Long-term debt	20,500	12,950
Deferred income taxes	293	277
Other liabilities - non-current	6,214	6,143
Total liabilities	40,502	29,271
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; 38,530,630 and 37,123,705 shares issued and 30,785,123 and 29,378,198 shares outstanding, respectively	382	370
Additional paid-in-capital	200,821	196,634
Accumulated deficit	(78,334)	(77,260)
Accumulated other comprehensive loss	(4,366)	(4,863)
Treasury stock at cost, 7,745,507 common shares	(10,668)	(10,668)
Total stockholders' equity	107,835	104,213
Total liabilities and stockholders' equity	$ 148,337	$ 133,484

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (LOSS)
(Unaudited, in thousands, except per share amounts)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2013	2012	2013	2012
Revenues	$ 25,137	$ 26,104	$ 77,317	$ 82,922
Cost of product revenues	13,833	14,110	41,652	43,913
Gross profit	11,304	11,994	35,665	39,009
Sales and marketing expenses	4,414	4,670	13,790	14,182
General and administrative expenses	5,314	4,832	15,996	14,593
Research and development expenses	1,934	1,861	5,856	5,549
Restructuring charges	96	29	51	166
Amortization of intangible assets	600	681	1,955	2,071
Total operating expenses	12,358	12,073	37,648	36,561
Operating (loss) income	(1,054)	(79)	(1,983)	2,448
Other (expense) income:				
Foreign exchange	(84)	(29)	(74)	(86)
Interest expense	(276)	(147)	(650)	(447)
Interest income	10	11	28	37
Other expense, net	(7)	(13)	(87)	(294)
Other (expense) income, net	(357)	(178)	(783)	(790)
(Loss) income from continuing operations before income taxes	(1,411)	(257)	(2,766)	1,658
Income tax (benefit) expense	(433)	(124)	(1,410)	490
(Loss) income from continuing operations	(978)	(133)	(1,356)	1,168
Discontinued operations:				
(Loss) income from discontinued operations, net of tax	(5)	-	282	-
Total (loss) income from discontinued operations, net of tax	(5)	-	282	-
Net (loss) income	$ (983)	$ (133)	$ (1,074)	$ 1,168
(Loss) income per share:				
Basic (loss) earnings per common share from continuing operations	$ (0.03)	$ -	$ (0.04)	$ 0.04
Discontinued operations	-	-	0.01	-
Basic (loss) earnings per common share	$ (0.03)	$ -	$ (0.04)	$ 0.04
Diluted (loss) earnings per common share from continuing operations	$ (0.03)	$ -	$ (0.04)	$ 0.04
Discontinued operations	-	-	0.01	-
Diluted (loss) earnings per common share	$ (0.03)	$ -	$ (0.04)	$ 0.04
Weighted average common shares:				
Basic	30,575	28,798	30,155	28,759
Diluted	30,575	28,798	30,155	29,353
Comprehensive income (loss):				
Net (loss) income	$ (983)	$ (133)	$ (1,074)	$ 1,168
Foreign currency translation adjustments	2,387	1,444	497	988
Total comprehensive income (loss)	$ 1,404	$ 1,311	$ (577)	$ 2,156

HARVARD BIOSCIENCE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited, in thousands)

	Nine Months Ended September 30,	
	2013	**2012**
Cash flows from operating activities:		
Net (loss) income	$ (1,074)	$ 1,168
Adjustments to reconcile net (loss) income to net cash provided by operating activities:		
Stock-based compensation expense	2,000	2,373
Depreciation	990	930
Earn-out related to discontinued operations	(440)	-
Loss (gain) on sales of fixed assets	1	(28)
Non-cash restructuring charges (credit)	51	(13)
Amortization of catalog costs	84	139
Provision for allowance for doubtful accounts	69	(23)
Amortization of intangible assets	1,955	2,071
Amortization of deferred financing costs	29	67
Deferred income taxes	(1,712)	(628)
Changes in operating assets and liabilities:		
Decrease in accounts receivable	948	1,841
(Increase) decrease in inventories	(227)	861
Increase in other receivables and other assets	(1,015)	(107)
Decrease in trade accounts payable	(15)	(1,196)
Increase (decrease) in accrued income taxes payable	406	(21)
Increase (decrease) in accrued expenses	615	(342)
Increase in deferred revenue	143	58
Increase (decrease) in other liabilities	3	(494)
Net cash provided by operating activities	2,811	6,656
Cash flows from investing activities:		
Additions to property, plant and equipment	(1,089)	(1,151)
Additions to catalog costs	(57)	-
Proceeds from sales of property, plant and equipment	66	36
Acquisitions, net of cash acquired	-	(2,863)
Proceeds from sale of discontinued operations	1,709	-
Net cash provided by (used in) investing activities	629	(3,978)
Cash flows from financing activities:		
Proceeds from issuance of debt	12,049	500
Repayments of debt	(1,500)	(1,500)
Proceeds from issuance of common stock	2,290	461
Payments of debt issuance costs	(292)	
Net cash provided by (used in) financing activities	12,547	(539)
Effect of exchange rate changes on cash	263	230
Increase in cash and cash equivalents	16,250	2,369
Cash and cash equivalents at the beginning of period	20,681	17,916
Cash and cash equivalents at the end of period	$ 36,931	$ 20,285
Supplemental disclosures of cash flow information:		
Cash paid for interest	$ 534	$ 411
Cash paid for income taxes, net of refunds	$ 1,244	$ 1,142

1. Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation

The unaudited consolidated financial statements of Harvard Bioscience, Inc. and its wholly-owned subsidiaries (collectively, "Harvard Bioscience," the "Company," "our" or "we") as of September 30, 2013 and for the three and nine months ended September 30, 2013 and 2012 have been prepared by the Company pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC"). Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP") have been condensed or omitted pursuant to such rules and regulations. The December 31, 2012 consolidated balance sheet was derived from audited financial statements, but does not include all disclosures required by U.S. GAAP. However, the Company believes that the disclosures are adequate to make the information presented not misleading. These unaudited consolidated financial statements should be read in conjunction with the consolidated financial statements and the notes thereto included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2012, which was filed with the SEC on March 18, 2013.

In the opinion of management, all adjustments, which include normal recurring adjustments necessary to present a fair statement of financial position as of September 30, 2013, results of operations and comprehensive income (loss) for the three and nine months ended September 30, 2013 and 2012 and cash flows for the nine months ended September 30, 2013 and 2012, as applicable, have been made. The results of operations for the three and nine months ended September 30, 2013 are not necessarily indicative of the operating results for the full fiscal year or any future periods.

Summary of Significant Accounting Policies

The accounting policies underlying the accompanying unaudited consolidated financial statements are those set forth in Note 2 to the consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2012. In addition to these policies, effective June 5, 2013, the Company entered into an interest rate swap contract and added the following policy to its "Summary of Significant Accounting Policies".

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.

2. Recently Issued Accounting Pronouncements

In July 2013, the FASB issued ASU 2013-11, "Income Taxes (Topic 740): Presentation of an Unrecognized Tax Benefit When a Net Operating Loss Carryforward, a Similar Tax Loss, or a Tax Credit Carryforward Exists", which requires an entity to present an unrecognized tax benefit as a reduction of a deferred tax asset for a net operating loss (NOL) carryforward, or similar tax loss or tax credit carryforward, rather than as a liability when the uncertain tax position would reduce the NOL or other carryforward under the tax law. The ASU is effective prospectively for fiscal years, and interim periods within those years, beginning after December 15, 2013. The Company believes the adoption of this new guidance will not have a material impact on its consolidated results of operations or financial position.

In February 2013, the FASB issued additional guidance in ASU 2013-02, "Reporting Amounts Reclassified Out of Accumulated Other Comprehensive Income." The new guidance requires an entity to present the effects on net income line items of significant amounts reclassified out of accumulated other comprehensive income, but only if the item reclassified is required under U.S. GAAP to be reclassified to net income in its entirety in the same reporting period. The Company shall provide this information either on the face of the statements or in the notes to the consolidated financial statements. The guidance is effective for fiscal years beginning after December 15, 2012. The adoption of this new guidance did not have a material impact on our consolidated results of operations or financial position.

3. Goodwill and Other Intangible Assets

Intangible assets consist of the following:

	September 30, 2013		December 31, 2012		Weighted Average Life (a)
	(in thousands)				
Amortizable intangible assets:	Gross	Accumulated Amortization	Gross	Accumulated Amortization	
Existing technology	$ 13,302	$ (10,785)	$ 13,258	$ (10,207)	4.5 Years
Tradename	6,182	(2,081)	6,167	(1,756)	11.2 Years
Distribution agreement/customer relationships	21,790	(9,063)	21,699	(7,938)	10.8 Years
Patents	9	(7)	9	(7)	2.6 Years
Total amortizable intangible assets	$ 41,283	$ (21,936)	$ 41,133	$ (19,908)	
Unamortizable intangible assets:					
Goodwill	$ 36,318		$ 36,200		
Other indefinite lived intangible assets	1,283		1,276		
Total goodwill and other indefinite lived intangible assets	$ 37,601		$ 37,476		

(a) Weighted average life is as of September 30, 2013.

The change in the carrying amount of goodwill for the nine months ended September 30, 2013 was as follows:

Goodwill rollforward

	(in thousands)
Balance at December 31, 2012	$ 36,200
Effect of change in foreign currencies	118
Balance at September 30, 2013	$ 36,318

The goodwill and intangible assets balances at September 30, 2013 and December 31, 2012 were related to the Life Science Research Tools ("LSRT") segment.

Intangible asset amortization expense was $0.6 million and $0.7 million for the three months ended September 30, 2013 and 2012, respectively. Intangible asset amortization expense was $2.0 million and $2.1 million for the nine months ended September 30, 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, 2013, $2.4 million for the year ending December 31, 2014, $2.1 million for the year ending December 31, 2015, $2.0 million for the year ending December 31, 2016 and $1.8 million for the year ending December 31, 2017.

4. Inventories

Inventories consist of the following:

	September 30, 2013	December 31, 2012
	(in thousands)	
Finished goods	$ 7,957	$ 8,023
Work in process	806	731
Raw materials	9,265	9,008
Total	$ 18,028	$ 17,762

5. Restructuring and Other Exit Costs

2013 Restructuring Plans

During the third quarter of 2013, the management of Harvard Bioscience initiated a plan to reduce operating expenses at its Biochrom Limited subsidiary.

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 September 30, 2013	$ -

2012 Restructuring Plans

During 2012, the management of Harvard Bioscience initiated a plan to reduce operating expenses at Panlab s.l., its Harvard Apparatus Spain subsidiary.

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	(45)	-	(45)
Restructuring balance at September 30, 2013	$ 4	$ -	$ 4

Aggregate restructuring charges for the 2013 and the 2012 restructuring plans were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2013	2012	2013	2012
	(in thousands)		(in thousands)	
Restructuring charges	$ 96	$ 29	$ 51	$ 166

6. Discontinued Operations

In November 2007, the Company completed the sale of the assets of its Genomic Solutions Division and the stock of its Belgian subsidiary, MAIA Scientific, both of which were part of its Capital Equipment Business Segment, to Digilab, Inc. The purchase price paid by Digilab under the terms of the Asset Purchase Agreement consisted of $1.0 million in cash plus additional consideration in the form of an earn-out based on 20% of the revenue generated by the acquired business as it is conducted by Digilab over a three-year period post-transaction. Any earn-out amounts were evidenced by interest bearing promissory notes which were due on November 30, 2012. The unpaid principal balance of the promissory notes had an interest of LIBOR plus 1100 basis points per annum. Digilab had delivered promissory notes of $4.6 million. The Company has recorded valuation allowances for 100% of the earn-out promissory notes as their collectability is uncertain. Going forward, the Company will continue to monitor the financial performance of Digilab and recognize any contingent consideration in discontinued operations when and if realization of earn-out amounts is probable. The Company has included the contingent consideration as sale proceeds in its income tax returns. Accordingly, the tax effect of this contingent consideration is included in the Company's deferred tax assets.

In September 2008, the Company completed the sale of assets of its Union Biometrica Division including its German subsidiary, Union Biometrica GmbH, representing at that time the remaining portion of its 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 revenue generated by the acquired business as it is conducted by UBIO Acquisition Company over a five-year post-transaction period in an amount equal to (i) 5% of the revenue generated up to and including $6.0 million and (ii) 8% of the revenue generated above $6.0 million each year. Any earn-out amounts are evidenced by interest-bearing promissory notes due on September 30, 2013 or at an earlier date based on certain triggering events. As of September 30, 2013, UBIO Acquisition Company had delivered promissory notes and made payments, including interest, of $1.8 million and $1.7 million, respectively. The remaining $0.1 million due, represents UBIO Acquisition Company's final obligation under the earn-out obligation and it was received in October 2013.

The following table sets forth the impact discontinued operations had on the Company's consolidated statement of operations and comprehensive income (loss).

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2013	2012	2013	2012
	(in thousands)		(in thousands)	
(Loss) income from discontinued operations, net of tax	$ (5)	$ -	$ 282	$ -

7. Warranties

Warranties are estimated and accrued at the time sales 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
Nine months ended September 30, 2013	$ 222	$ (89)	$ 160	$ 293

8. Employee Benefit Plans

Certain of the Company's United Kingdom subsidiaries, Harvard Apparatus Limited and Biochrom Limited, maintain contributory, defined benefit or defined contribution pension plans for substantially all of their employees. The components of the Company's defined benefit pension expense were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2013	2012	2013	2012
	(in thousands)			
Components of net periodic benefit cost:				
Service cost	$ 84	$ 83	$ 235	$ 241
Interest cost	209	214	583	600
Expected return on plan assets	(137)	(147)	(383)	(414)
Net amortization loss	65	56	181	156
Net periodic benefit cost	$ 221	$ 206	$ 616	$ 583

In each of the three months ended September 30, 2013 and 2012, the Company contributed $0.3 million and $0.2 million, respectively, to its defined benefit plans. In each of the nine months ended September 30, 2013 and 2012, the Company contributed $0.7 million to its defined benefit plans. The Company expects to contribute approximately $0.2 million to its defined benefit plans during the remainder of 2013.

As of September 30, 2013 and December 31, 2012, the Company had an underfunded pension liability of approximately $5.9 million, included in the other liabilities-non-current line item in the Consolidated Balance Sheets.

9. Leases

The Company has non-cancelable operating leases for office and warehouse space expiring at various dates through 2019.

Rent expense, which is recorded on a straight-line basis, is estimated to be $1.2 million for the year ending December 31, 2013. Rent expense was $0.9 million and $1.0 for the nine months ended September 30, 2013 and 2012, respectively. Future minimum lease payments for operating leases, with initial or remaining terms in excess of one year at September 30, 2013, are as follows:

	Operating Leases
	(in thousands)
2014	$ 1,197
2015	1,048
2016	743
2017	455
2018	159
Thereafter	69
Net minimum lease payments	$ 3,671

10. Capital Stock

Employee Stock Purchase Plan, as amended ("ESPP")

Under the ESPP, which was approved in 2000, 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 plan for the six-month periods ending June 30 and December 31. On May 23, 2013, the stockholders of the Company approved an increase in the number of shares available for issuance under the ESPP by 250,000 shares of common stock. Following such amendment, as of September 30, 2013, 750,000 shares of common stock were authorized for issuance under the ESPP, of which 497,708 shares were issued. During the nine months ended September 30, 2013, the Company issued 27,305 shares of the Company's common stock under the ESPP. During the nine months ended September 30, 2012, the Company issued 25,597 shares of the Company's common stock under the ESPP. There were no shares issued under the ESPP during the three months ended September 30, 2013 and 2012.

Third Amended and Restated 2000 Stock Option and Incentive Plan, as amended ("2000 Plan")

The Company accounts for share-based payment awards in accordance with the provisions of FASB ASC 718 *"Compensation- Stock Compensation"*, which requires the Company to recognize compensation expense for all share-based payment awards made to employees and directors including stock options, deferred stock awards in the form of restricted stock units ("RSUs") and employee stock purchases related to the ESPP.

On May 23, 2013, the Board of Directors approved the grant, to be issued on May 31, 2013, of 124,277 RSUs and 826,388 stock options under the 2000 Plan. The RSUs were valued at the closing stock price on the date of grant. The Company utilized the Black-Scholes valuation model for estimating the fair value of the stock-based compensation.

Stock option and RSU activity under the 2000 Plan for the nine months ended September 30, 2013 was as follows:

		Stock Options		Restricted Stock Units	
	Available for Grant	Stock Options Outstanding	Weighted Average Exercise Price	Restricted Stock Units Outstanding	Grant Date Fair Value
Balance at December 31, 2012	1,972,956	8,078,509	$ 4.25	677,193	$ 3.97
Granted	(950,665)	826,388	5.08	124,277	5.08
Fungible share adjustment for RSUs granted	(98,182)			-	-
Exercised	-	(1,924,264)	5.47	-	-
Vested (RSUs)	-	-	-	(233,530)	
Shares withheld for taxes	24,169	-	-	-	-
Cancelled / forfeited	1,059,544	(920,489)	5.73	(139,055)	3.98
Fungible share adjustment for RSUs cancelled	83,467	-	-	-	-
Balance at September 30, 2013	2,091,289	6,060,144	$ 4.37	428,885	$ 4.29

The following assumptions were used to estimate the fair value of stock options granted during the nine months ended September 30, 2013 and 2012:

	Nine Months Ended September 30,	
	2013	2012
Volatility	57.20%	55.09%
Risk-free interest rate	1.18%	0.80%
Expected holding period (in years)	5.64	5.98
Dividend Yield	-%	-%

There were no stock options or RSU's granted during the three months ended September 30, 2013 and 2012.

The weighted average fair values of the options granted under the 2000 Plan during the nine months ended September 30, 2013 was $2.64, using the Black Scholes option-pricing model.

The Company used historical volatility to estimate the expected stock price volatility assumption. 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 employee stock options. The expected holding period of employee stock options represents the period of time options are expected to be outstanding and is based on historical experience. The vesting period is between one and four years. The contractual life is ten years.

Stock-based compensation expense for the three and nine months ended September 30, 2013 and 2012 consisted of stock-based compensation expense related to stock options, RSUs and the ESPP.

Stock-based compensation expense for the three and nine months ended September 30, 2013 and 2012, respectively, was allocated as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2013	2012	2013	2012
	(in thousands)			
Cost of product revenues	$ 39	$ 24	$ 91	$ 62
Sales and marketing	76	67	191	157
General and administrative	632	859	1,685	2,134
Research and development	16	8	33	20
Total stock-based compensation	$ 763	$ 958	$ 2,000	$ 2,373

The Company did not capitalize any stock-based compensation.

Weighted Average Common Shares Outstanding

Basic income per share is based upon net income divided by the number of weighted average common shares outstanding during the period. The calculation of diluted net income per share assumes conversion of stock options 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:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2013	2012	2013	2012
Basic	30,574,815	28,797,887	30,154,788	28,758,621
Effect of assumed conversion of stock options and restricted stock units	-	-	-	594,642
Diluted	30,574,815	28,797,887	30,154,788	29,353,263

Diluted loss per share for the three and nine months ended September 30, 2013 was based on the basic weighted-average number of shares outstanding during the period, as the inclusion of any common stock equivalents would have been anti-dilutive. Excluded from the shares used in calculating the diluted earnings per common share in the above table are options to purchase approximately 6,060,144 and 8,644,009 shares of common stock for the three months ended September 30, 2013 and 2012, respectively, as the impact of these shares would be anti-dilutive. Excluded from the shares used in calculating the diluted earnings per common share in the above table are options to purchase approximately 7,227,774 and 5,812,794 shares of common stock for the nine months ended September 30, 2013 and 2012, respectively, as the impact of these shares would be anti-dilutive.

11. Revolving Credit Facility

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.

On March 29, 2013, the Company entered into a Second Amended and Restated Revolving Credit Agreement (the "Credit Agreement") with Bank of America, as agent, and Bank of America and Brown Brothers Harriman & Co as lenders. The Credit Agreement converted the Company's existing outstanding revolving advances into a term loan in the principal amount of $15 million (the "Term Loan"), provides a revolving credit facility in the maximum principal amount of $25 million ("Revolving Line") and provides a delayed draw term loan of up to $15 million (the "DDTL") to fund capital contributions to the Company's subsidiary, Harvard Apparatus Regenerative Technology, Inc., ("HART"). The maximum amount available under the Credit Agreement is $50 million as borrowings against the DDTL in excess of $10 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.

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 are guaranteed by all of the Company's direct and indirect domestic subsidiaries, excluding HART, 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 are 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 September 30, 2013 and December 31, 2012, the Company had borrowings of $23.5 million and $13.0 million, respectively, outstanding under its Credit Agreement. As of September 30, 2013, the Company was in compliance with all financial covenants contained in the credit agreement; the Company was not subject to any borrowing restrictions under the financial covenants and had available borrowing capacity under its Credit Agreement of $25.0 million. During the nine months ended September 30, 2013, the Company incurred $0.3 million of debt issuance costs associated with the Credit Agreement. The costs were capitalized, reflected in the balance sheet as an asset, and amortized over the finite life of the underlying Credit Agreement.

As of September 30, 2013, the effective interest rate on the Company's Term Loan and Revolving Line borrowings were 3.96% and 3.18%, respectively.

See Note 16 for a discussion of a recent amendment to the Credit Agreement.

12. 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. Effective June 5, 2013, the Company entered into an interest rate swap contract with a notional amount of $15 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. The 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 interest rate swap was designated as a cash flow hedge instrument in accordance with ASC 815 "Derivatives and Hedging".

The following table presents the notional amount and fair value of the Company's derivative instrument as of September 30, 2013. As of December 31, 2012 the Company did not have any derivative instruments outstanding.

		September 30, 2013 Notional Amount	September 30, 2013 Fair Value (a)
Derivatives designated as hedging instruments under ASC 815	**Balance sheet classification**	(in thousands)	
Interest rate swap	Other liabilities-non current	$ 13,500	$ (69)

(a) See note 13 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 the interest rate swap agreement 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 on the Company's consolidated statements of operations:

	For the Three months ended September 30, 2013		
(In thousands)	**Amount of gain or (loss) recognized in OCI on derivative (effective portion)**	**Location of gain or (loss) reclassified from AOCI into income (effective portion)**	**Amount of gain or (loss) reclassified from AOCI into income (effective portion)**
Interest rate swap	$ (23)	Interest expense	$ (29)

	For the Nine months ended September 30, 2013		
(In thousands)	**Amount of gain or (loss) recognized in OCI on derivative (effective portion)**	**Location of gain or (loss) reclassified from AOCI into income (effective portion)**	**Amount of gain or (loss) reclassified from AOCI into income (effective portion)**
Interest rate swap	$ (69)	Interest expense	$ (36)

As of September 30, 2013, $0.1 million of deferred losses on derivative instruments accumulated in AOCI are expected to be reclassified to earnings during the next 12 months. Transactions and events expected to occur over the next twelve months that will necessitate reclassifying these derivatives' gains to earnings include the repricing of variable-rate debt. There were no cash flow hedges discontinued during 2013 or 2012.

13. 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 table presents the fair value hierarchy for those liabilities measured at fair value on a recurring basis:

	Fair Value as of September 30, 2013			
(In thousands)	Level 1	Level 2	Level 3	Total
Liabilities:				
Interest rate swap agreements	$ -	$ 69	$ -	$ 69

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 agreement was based on LIBOR yield curves at the reporting date.

14. Income Tax

The effective income tax benefit was 30.7% and 51.0% for the three and nine months ended September 30, 2013, respectively. The rates for both periods included benefits related to foreign tax rate differential, research and development tax credits and stock options, as well as offsetting discrete expense items related to certain non-deductible costs.

During the three months ended September 30, 2013, the Company closed its IRS audit of the 2009 and 2010 tax years with no material charges.

15. Segment Reporting

The Company has two reportable segments, namely the LSRT segment and the Regenerative Medicine Device ("RMD") segment. The Company has two operating segments aggregated under the LSRT segment. These operating segments have similar products and services, customer channels, distribution methods and historical margins. The LSRT segment is engaged in the development, manufacture and marketing of specialized products, primarily apparatus and scientific instruments, used to advance life science research at pharmaceutical and biotechnology companies, universities and government laboratories worldwide.

The RMD segment is engaged in the development, manufacturing and marketing of devices used by clinicians and researchers in the field of regenerative medicine.

Non operating expenses that are not allocated to operating divisions are under the caption "Unallocated Expenses". Unallocated expenses also include certain corporate related expenses that are not allocable to the operating segments.

Summarized financial information on the Company's reportable segments for the three and nine months ended September 30, 2013 and 2012 are shown in the following table. There were no inter-segment revenues.

	LSRT	RMD	Unallocated	Total
		(in thousands)		
Three months ended September 30, 2013				
Total revenues	$ 25,137	$ -	$ -	$ 25,137
Operating income (loss)	2,312	(1,919)	(1,447)	(1,054)
Income (loss) before income taxes	2,125	(1,919)	(1,617)	(1,411)
Total assets	147,650	460	227	148,337
Three months ended September 30, 2012				
Total revenues	$ 26,104	-	-	26,104
Operating income (loss)	2,675	(1,647)	(1,107)	(79)
Income (loss) before income taxes	2,629	(1,647)	(1,239)	(257)
Total assets	129,931	295	354	130,580
Nine months ended September 30, 2013				
Total revenues	$ 77,317	-	-	77,317
Operating income (loss)	8,760	(6,866)	(3,877)	(1,983)
Income (loss) before income taxes	8,261	(6,866)	(4,161)	(2,766)
Total assets	147,650	460	227	148,337
Nine months ended September 30, 2012				
Total revenues	$ 82,922	-	-	82,922
Operating income (loss)	10,449	(4,434)	(3,567)	2,448
Income (loss) before income taxes	10,103	(4,434)	(4,011)	1,658
Total assets	129,931	295	354	130,580

16. Subsequent Events

Harvard Apparatus Regenerative Technology, Inc., or HART Spin-off

On November 1, 2013, the previously announced spin-off of Harvard Apparatus Regenerative Technology, Inc., or HART, from our company was completed. On that date, HART became an independent company that operates the regenerative medicine business, previously owned by us. The spin-off was completed through the distribution to our stockholders of record of 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 our 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, the Registrar & Transfer Company aggregated fractional shares into whole shares, and sold the whole shares in the open market and distributed the aggregate net cash proceeds pro rata to each holder who otherwise would have been entitled to receive a fractional share in the Distribution.

Effective with the spin-off, Harvard Bioscience contributed $15.0 million in cash to HART to fund its operations.

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 has 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 units 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 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 unit and HART restricted stock unit, would each be adjusted and set in a manner to ensure the intrinsic value held by the holder pertaining to the existing Harvard Bioscience award is maintained immediately following the Distribution and shall be determined such that tax is not triggered under Section 409A of the Internal Revenue Code. As part of these required adjustments, we issued an additional 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.

Harvard Bioscience intends for the HART contribution and Distribution, 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 also intends to seek an opinion from its outside tax advisor to such effect. In connection with the ruling and the opinion, Harvard Bioscience made or will make, respectively, 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 percent or greater change in HART's stock ownership.

In addition, current U.S. federal income tax law creates a presumption that the Company's 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.

Credit Agreement

In October 2013, the Company amended the Credit Agreement to reduce the DDTL from up to $15 million to up to $10 million and allow for up to $5 million to instead be available for drawing as advances under the Revolving Line.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Forward Looking Statements

This Quarterly Report on Form 10-Q 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"). The forward-looking statements are principally, but not exclusively, contained in "Item 2: 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, 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," "expects," "plans," "anticipates," "believes," "goals," "sees," "estimates," "projects," "predicts," "intends," "think,""potential," "objectives," "optimistic," "strategy," 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. Factors that may cause our actual results to differ materially from those in the forward-looking statements include our failure to identify potential acquisition candidates and successfully close such acquisitions with favorable pricing, successfully integrate acquired businesses or technologies, complete consolidations of business functions, expand our product offerings, introduce new products or commercialize new technologies, including in the field of regenerative medicine, unanticipated costs relating to acquisitions, unanticipated costs arising in connection with our consolidation of business functions and any restructuring initiatives, decreased demand for our products due to changes in our customers' needs, our ability to obtain regulatory approvals, including FDA approval, for our products, the current size or anticipated size of the regenerative medicine market, the existence and size of opportunities in the regenerative medicine market, our ability to complete the planned spin-off of our subsidiary, our financial position, general economic outlook or other circumstances, the seasonal nature of purchasing in Europe, economic, political and other risks associated with international revenues and operations, the impact of the current economic and financial crisis, additional costs of complying with recent changes in regulatory rules applicable to public companies, our ability to retain key personnel, competition from our competitors, technological changes resulting in our products becoming obsolete, future changes to the operations or the activities of our subsidiaries due to manufacturing consolidations, our ability to meet the financial covenants contained in our credit facility, our ability to protect our intellectual property and operate without infringing on others' intellectual property, potential costs of any lawsuits to protect or enforce our intellectual property, economic and political conditions generally and those affecting pharmaceutical and biotechnology industries, federal government's spending and reduction regulations and research funding levels from endowments at our university customers, impact of any impairment of our goodwill or intangible assets, our ability to utilize deferred tax assets after the release of our valuation allowances, the amount of earn-out consideration that we receive in connection with the disposition of our Capital Equipment Business segment and factors that may impact the receipt of this consideration, such as the revenues of the businesses disposed of, plus factors described under the heading "Item 1A. Risk Factors" in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2013 or described in our other public filings. Our results may also be affected by factors of which we are not currently aware. 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.

General

Harvard Bioscience consists of a Life Science Research Tools ("LSRT") business and a Regenerative Medicine Device ("RMD") business.

Our LSRT strategy is to have a broad range of highly specialized but relatively inexpensive products that have strong positions in niche markets in life science research. We believe that:

- Having a broad product offering reduces the risk of being dependent on a single technology;
- Having relatively inexpensive products reduces the volatility associated with expensive capital equipment;
- Focusing on niche markets reduces head-to-head competition with the major instrument companies.

We seek to grow this range of products through a combination of organic growth driven by internal development of new products, direct marketing, distribution channel expansion and the acquisition of closely related 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. We also believe that our expertise in operational management frequently allows us to improve profitability at acquired companies.

In December of 2012, we made the decision to divest our RMD business which we believed was the best path to maximizing value for our shareholders. As of November 1, 2013, this spin off was fully completed and Harvard Apparatus Regenerative Technology ("HART") is now trading as a public reporting company, as per the Securities Exchange Act of 1934, on the NASDAQ market under the trading symbol HART. Founder and former CEO of Harvard Bioscience, David Green, as well as former CFO, Thomas McNaughton, both left Harvard Bioscience to join HART as its CEO and CFO, respectively.

As a result of the exiting of these key management members, considerable time and energy was required to recruit, train and build a new management team, making the third quarter of 2013 a transitional quarter for Harvard Bioscience. Jeffrey A. Duchemin was hired by the Board of Directors and became the new CEO of our Company to replace departing founder and interim CEO, David Green. Other new hires included: Robert Gagnon as Chief Financial Officer; Yoav Sibony as Vice President, Global Sales; and, Yong Sun as Vice President, Strategic Marketing and Business Development. These new hires are an important component on our path forward to driving growth.

One key step in our success moving forward will be a strengthened emphasis on global expansion, especially in China which we believe presents an extraordinarily rich opportunity for our services and products. As we move into 2014, our key initiatives will include organic growth throughout our Company, accelerating growth in China, building stronger channel capabilities, and pursuing a prudent set of strategic acquisitions.

Separation of Business

On November 1, 2013, the previously announced spin-off of HART from Harvard Bioscience, Inc. was completed. 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 of 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 of Harvard Bioscience 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 will aggregate fractional shares into whole shares, sell the whole shares in the open market and distribute 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. 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 unit and HART restricted stock unit, would each be adjusted and set in a manner to ensure the intrinsic value held by the holder pertaining to the existing Harvard Bioscience award is maintained immediately following the Distribution and shall be determined such that tax is not triggered under Section 409A of the Internal Revenue Code.

Effective with the spin-off, we contributed $15.0 million in cash to HART to fund its operations.

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 has 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 units 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 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 unit and HART restricted stock unit, would each be adjusted and set in a manner to ensure the intrinsic value held by the holder pertaining to the existing Harvard Bioscience award is maintained immediately following the Distribution and shall be determined such that tax is not triggered under Section 409A of the Internal Revenue Code. As part of these required adjustments, we issued an additional 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.

Harvard Bioscience intends for the HART contribution and Distribution, 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 also intends to seek an opinion from its outside tax advisor to such effect. In connection with the ruling and the opinion, Harvard Bioscience made or will make, respectively, certain representations regarding it and its 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 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 percent 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.

Financing

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. On March 29, 2013, we entered into a Second Amended and Restated Revolving Credit Agreement (the "Credit Agreement") with Bank of America, as agent, and Bank of America and Brown Brothers Harriman & Co as lenders. The Credit Agreement converted the Company's existing outstanding revolving advances into a term loan in the principal amount of $15 million (the "Term Loan"), provides a revolving credit facility in the maximum principal amount of $25 million ("Revolving Line") and provides a delayed draw term loan of up to $10 million, reduced from $15 million as discussed below (the "DDTL") to fund capital contributions to our subsidiary, HART. The maximum amount available under the Credit Agreement is $50 million. 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. In October 2013, we amended the Credit Agreement to reduce the DDTL from up to $15 million to up to $10 million and allow for up to $5 million to instead 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%. The Credit Agreement required us 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 are guaranteed by all of our direct and indirect domestic subsidiaries, excluding HART, and secured by substantially all of the assets of our Company and the guarantors. The Loans are subject to restrictive covenants under the Credit Agreement, and financial covenants that require our Company and our 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 are allowed by the Credit Agreement at any time during the terms of the Loans. The Loans also contain 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. Historically, we have funded acquisitions with debt, capital raised by issuing equity and cash flow from operations. In order to continue the acquisition portion of our growth strategy beyond what our current cash balances and cash flow from operations can support, we will need to raise more capital, either by incurring additional debt, issuing equity or a combination thereof.

At September 30, 2013 and December 31, 2012, we had borrowings of $23.5 million and $13.0 million outstanding under our credit facility.

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 website. For products primarily priced under $10,000, we typically distribute a new, comprehensive catalog every one to three years, initially in a series of bulk mailings, first to our existing customers, followed by mailings to targeted markets of potential customers. Over the life of the catalog, distribution will also be made periodically to potential and existing customers through direct mail and trade shows and in response to e-mail and telephone inquiries. From time to time, we also distribute catalog supplements that promote selected areas of our catalog or new products to targeted subsets of our customer base. Future editions of our comprehensive catalog and our catalog supplements will be timed at least in part with the incidence of new product introductions. Our end user customers are research scientists at pharmaceutical and biotechnology companies, universities and government laboratories. We launched our latest comprehensive catalog in March 2010, with approximately 850 pages, 11,000 products and approximately 65,000 copies printed. Revenues from direct sales to end users represented approximately 59% and 57%, respectively, of our revenues for the nine months ended September 30, 2013 and for the year ended December 31, 2012.

Products sold under brand names of distributors 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 very 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 distributors in place for acquired businesses. For the nine months ended September 30, 2013 and for the year ended December 31, 2012, approximately 41% and 43%, respectively, of our revenues were derived from sales to distributors.

For the nine months ended September 30, 2013, approximately 63% of our revenues were derived from products we manufacture; approximately 27% were derived from distributed products sold under our brand names and approximately 10% 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. For the year ended December 31, 2012, approximately 67% of our revenues were derived from products we manufacture; approximately 23% were derived from distributed products sold under our brand names and approximately 10% 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.

For the nine months ended September 30, 2013 and for the year ended December 31, 2012, approximately 38% and 41%, respectively, of our revenues were derived from sales made by our non-U.S. operations. A portion of our international sales during these periods consisted of sales to GE Healthcare, the distributor for our spectrophotometers and plate readers. GE Healthcare distributes these products to customers around the world, including to many customers in the United States, from its distribution center in Upsalla, Sweden. As a result, we believe our international sales would have been a lower percentage of our revenues if we had shipped our products directly to our end-users.

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 revenue 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 in our catalog. 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 relations 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.

Stock-based compensation expenses. Stock-based compensation expense recognized under FASB ASC 718, "*Compensation – Stock Compensation,"* was related to stock options, RSUs and the employee stock purchase plan and was recorded as a component of cost of product revenues, sales and marketing expenses, general and administrative expenses and research and development expenses.

Bookings and Backlog

We monitor bookings and backlog as these are indicators of future revenue and business activity levels. Bookings were $25.7 million and $25.8 million for the three months ended September 30, 2013 and 2012, respectively.

Bookings decreased by $5.2 million, or 6.3% to $77.2 million for nine months ended September 30, 2013 compared with $82.3 million for the same period in 2012. Bookings from GEHC were down approximately $2.1 million year to year. Additionally, softness in several European markets (specifically Spain, Germany, and the UK) due to continued economic uncertainty and in North America due to the government sequester contributed to the decreased year to year bookings.

Backlog increased by approximately $0.7 million or 19% to $4.4 million on September 30, 2013 compared with approximately $3.7 million on June 30, 2013. This quarter over quarter increase was mainly at our Biochrom and Denville subsidiaries. The increase at Biochrom was mainly due to orders received at the end of the quarter while the increase at Denville was due to vendor supply issues which were not resolved until the fourth quarter of 2013. Backlog decreased by $0.3 million, or 5.7% to $4.4 million on September 30, 2013 compared with $4.6 million on September 30, 2012. The decrease was primarily due to lower bookings during the nine months ended September 30, 2013, as described in the preceding paragraph..

Selected Results of Operations

Three months ended September 30, 2013 compared to three months ended September 30, 2012:

	Three Months Ended September 30,			
	2013	2012	Dollar Change	% Change
	($ in thousands)			
Revenues	$ 25,137	$ 26,104	$ (967)	-3.7%
Cost of product revenues	13,833	14,110	(277)	-2.0%
Gross margin percentage	45.0%	45.9%		-2.1%
Sales and marketing expenses	4,414	4,670	(256)	-5.5%
General and administrative expenses	5,314	4,832	482	10.0%
Research and development expenses	1,934	1,861	73	3.9%

Revenues.

Revenues were lower by $1.0 million, or 3.7%, with currency translation having a nominal positive impact of 0.1%, to $25.1 million for the three months ended September 30, 2013 compared to $26.1 million for the same period in 2012. In our Biochrom and Hoefer businesses, revenues from shipments to GEHC were down approximately $0.9 million and represented approximately 95% of our overall unfavorable year to year revenue comparison. Our Harvard Apparatus revenues were negatively impacted by government austerity programs in Europe and sequestration in the U.S. on life sciences research spending.

Cost of product revenues.

Cost of product revenues decreased $0.3 million, or 2.0%, to $13.8 million for the three months ended September 30, 2013 compared with $14.1 million for the three months ended September 30, 2012. Gross profit as a percentage of revenues decreased to 45.0% for the three months ended September 30, 2013 compared with 45.9% for the same period in 2012. The decrease in gross profit as a percentage of revenues was primarily due to lower sales volume and a less favorable sales mix.

Sales and marketing expense.

Sales and marketing expenses decreased $0.3 million, or 5.5%, to $4.4 million for the three months ended September 30, 2013 compared with $4.7 million for the three months ended September 30, 2012. In LSRT, sales and marketing expenses decreased $0.2 million, or 5.3%, to $4.2 million, compared to $4.4 million for the three months ended September 30, 2012, primarily due to cost reduction activities at our Hoefer business. In RMD, sales and marketing expenses were flat as compared to the third quarter of 2012 at $0.2 million.

General and administrative expense.

General and administrative expenses increased $0.5 million, or 10.0%, to $5.3 million for the three months ended September 30, 2013 compared with $4.8 million for the three months ended September 30, 2012. In LSRT, general and administrative expenses increased $0.1 million, or 2.9%, to $4.4 million compared to $4.3 million for the three months ended September 30, 2012 primarily due to higher recruiting related costs at our corporate headquarters. In RMD, general and administrative expenses increased $0.4 million mainly due to higher recruiting costs for a Chief Medical Officer and legal and consulting costs associated with the separation and spin-off of the HART business.

Research and development expense.

Research and development expenses were flat at $1.9 million for the three months ended September 30, 2013 and 2012. In LSRT, research and development expenses increased $0.1 million, or 14.6%, to $1.1 million compared to $1.0 million for the three months ended September 30, 2012 primarily due to higher expenses at our Biochrom business. In RMD, research and development expenses decreased $0.1 million.

Amortization of intangible assets.

Amortization of intangible assets expense decreased $0.1 million, or 11.8%, to $0.6 million for the three months ended September 30, 2013 compared with $0.7 for the three months ended September 30, 2012.

Other (expense) income, net.

Other income and expense, net, was $0.4 million expense and $0.2 million expense for the three months ended September 30, 2013 and 2012, respectively. Net interest expense was $0.3 million for the three months ended September 30, 2013 compared to net interest expense of $0.1 million for the three months ended September 30, 2012. The increase in net interest expense was due to a combination of higher average debt balances and higher interest rates associated with our interest rate swap agreement.

Income tax (benefit) expense.

Income tax benefit was $0.4 million and $0.1 million for the three months ended September 30, 2013 and 2012, respectively. The effective income tax rate for continuing operations was 30.7% benefit for the three months ended September 30, 2013, compared with 48.2% benefit for the same period in 2012. The effective tax rate for the third quarter of 2013 included benefits related to foreign tax rate differential and research and development tax credits, as well as offsetting discrete expense items related to certain non-deductible costs and stock options.

Selected Results of Operations

Nine months ended September 30, 2013 compared to nine months ended September 30, 2012:

	Nine Months Ended September 30,			
	2013	2012	Dollar Change	% Change
	($ in thousands)			
Revenues	$ 77,317	$ 82,922	$ (5,605)	-6.8%
Cost of product revenues	41,652	43,913	(2,261)	-5.1%
Gross margin percentage	46.1%	47.0%		-2.0%
Sales and marketing expenses	13,790	14,182	(392)	-2.8%
General and administrative expenses	15,996	14,593	1,403	9.6%
Research and development expenses	5,856	5,549	307	5.5%

Revenues.

Revenues decreased $5.6 million, or 6.8%, to $77.3 million for the nine months ended September 30, 2013 compared to $82.9 million for the same period in 2012. Our acquisition of AHN Biotechnologie (“AHN”), which we acquired in February 2012, contributed approximately $0.3 million, or 0.3%, to the nine months ended September 30, 2013 revenues. The effect of a stronger U.S. dollar decreased our revenues by $0.1 million, or 0.1%, compared with the same period in 2012. Adjusting for the effect of foreign currency fluctuation and acquisitions, revenues were down $5.8 million, or 7.0%, year-to-year. In our Biochrom business, revenues from shipments to GEHC were down approximately $2.6 million and represented approximately 46% of our overall unfavorable year to year revenue comparison. Our Harvard Apparatus and Hoefer revenues were negatively impacted by the government spending sequestration in the U.S. and government austerity programs in Europe on life science research spending. We expect revenue for the full year of 2013 to be in the range of $104.0 to $105.0 million. This represents a revenue decline of approximately 6.0% compared to full year 2012.

Cost of product revenues.

Cost of product revenues decreased $2.3 million, or 5.1%, to $41.7 million for the nine months ended September 30, 2013 compared with $43.9 million for the nine months ended September 30, 2012. Excluding the effects of currency fluctuations and acquisitions, cost of product revenues decreased by $2.2 million, or 5.1%, over the same period in the previous year. Gross profit as a percentage of revenues was 46.1% for the nine months ended September 30, 2013 compared with 47.0% for the same period in 2012. The decrease in gross profit as a percentage of revenues was primarily due to lower sales volume and a less favorable sales mix.

Sales and marketing expense.

Sales and marketing expenses decreased $0.4 million, or 2.8%, to $13.8 million for the nine months ended September 30, 2013 compared with $14.2 million for the nine months ended September 30, 2012. In LSRT, sales and marketing expenses decreased $0.4 million, or 3.0%, to $13.2 million, compared to $13.6 million for the nine months ended September 30, 2012 mainly due to cost reductions at our Harvard Apparatus and Hoefer businesses. In RMD, sales and marketing expenses were flat at $0.6 million.

General and administrative expense.

General and administrative expenses increased $1.4 million, or 9.6%, to $16.0 million for the nine months ended September 30, 2013 compared with $14.6 million for the nine months ended September 30, 2012. In LSRT, general and administrative expenses decreased $0.6 million, or 4.6%, to $12.6 million, compared to $13.2 million for the nine months ended September 30, 2012 primarily due to cost reduction activities across several of our businesses and lower stock compensation expense. This was partially offset by higher recruiting costs and legal fees incurred at our corporate headquarters. In RMD, general and administrative expenses increased $2.0 million year over year. That increase included a $0.8 million write-off of deferred IPO costs in the second quarter of 2013. The remainder of the increase included: $0.7 million of legal, consulting, accounting and reporting costs associated with the separation and spin-off of the HART business; $0.2 million of recruiting fees for a Chief Medical Officer; and $0.3 million of management and facility cost allocations.

Research and development expense.

Research and development expenses increased $0.3 million, or 5.5% to $5.9 million for the nine months ended September 30, 2013 compared with $5.6 million for the nine months ended September 30, 2012. In LSRT, research and development expenses decreased $0.1 million, or 3.0%, to $3.0 million for the nine months ended September 30, 2013, compared to $3.1 million for the nine months ended September 30, 2012 due to lower expenses at our Harvard Apparatus business. In RMD, research and development expenses increased approximately $0.4 million, primarily due to increased activity in our scaffold and bioreactor development activities.

Amortization of intangible assets.

Amortization of intangible assets expense decreased $0.1 million, or 5.6%, to $2.0 million for the nine months ended September 30, 2013 compared with $2.1 for the nine months ended September 30, 2012.

Other (expense) income, net.

Other income and expense, net, was $0.8 million expense for the nine months ended September 30, 2013 and 2012. Net interest expense was $0.7 million for the nine months ended September 30, 2013 compared to $0.4 million for the nine months ended September 30, 2012. The increase in net interest expense was due to a combination of higher average borrowings and higher interest rates associated with our interest rate swap agreement, during the nine months ended September 30, 2013 compared to the same period in 2012. Other expense, net, for the nine months ended September 30, 2012, also included $0.3 million of acquisition-related expenses.

Income Taxes.

Income tax (benefit) expense was $1.4 million benefit and $0.5 million expense for the nine months ended September 30, 2013 and 2012, respectively. The effective income tax rate for continuing operations was 51.0% benefit for the nine months ended September 30, 2013, compared with 29.6% expense for the same period in 2012. The effective tax rate for the nine months ended September 30, 2013 included benefits related to foreign tax rate differential, research and development tax credits and stock options, as well as offsetting discrete expense items related to certain non-deductible costs.

Liquidity and Capital Resources

Historically, we have financed our business through cash provided by operating activities, issuance of common stock and bank borrowings. Our liquidity requirements have arisen primarily from funding our recently spun-off RMD business and from investing activities, including the funding of acquisitions and capital expenditures.

We ended the third quarter of 2013 with cash and cash equivalents of $36.9 million compared to $20.7 million at December 31, 2012. As of September 30, 2013 and December 31, 2012, we had $23.5 million and $13.0 million, respectively, of borrowings outstanding under our credit facility. Total cash and cash equivalents, net of debt was $13.4 million and $7.7 million at September 30, 2013 and December 31, 2012, respectively. Effective with the spin-off of our RMD business we contributed $15.0 million in cash to HART to fund its operations.

As of September 30, 2013 and December 31, 2012, cash and cash equivalents held by our foreign subsidiaries was $21.8 million and $19.2 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 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 February 2012, we acquired all issued and outstanding shares of AHN, a German manufacturer, and utilized approximately $2.0 million of our foreign cash on hand.

Overview of Cash Flows

	Nine Months Ended September 30,	
	2013	2012
	(in thousands)	
Cash flows from operations:		
Net (loss) income	$ (1,074)	$ 1,168
Other adjustments to operating cash flows	3,027	4,888
Changes in assets and liabilities	858	600
Net cash provided by operating activities	2,811	6,656
Investing activities:		
Acquisition, net of cash acquired	-	(2,863)
Other investing activities	629	(1,115)
Net cash provided by (used in) investing activities	629	(3,978)
Financing activities:		
Proceeds (repayments) of debt, net	10,549	(1,000)
Other financing activities	1,998	461
Net cash provided by (used in) financing activities	12,547	(539)
Effect of exchange rate changes on cash	263	230
Increase in cash and cash equivalents	$ 16,250	$ 2,369

Our operating activities generated cash of $2.8 million for the nine months ended September 30, 2013 compared to $6.7 million for the nine months ended September 30, 2012. The decrease in cash flows from operations was primarily due to lower net income, higher working capital and higher deferred taxes.

Our investing activities provided cash of $0.6 million during the nine months ended September 30, 2013 compared to $4.0 million of cash used during the nine months ended September 30, 2012. Investing activities during 2013 included purchases and sales of property, plant and equipment, additions to catalog costs, and proceeds from the sale of discontinued operations. In the third quarter of 2013, the proceeds from the sale of discontinued operations included $1.7 million of cash received from UBI Acquisition Corp. Investing activities during 2012 included acquisitions of businesses and purchases and sales of property, plant and equipment. In February 2012, we acquired AHN for approximately $2.0 million. In May 2012, we acquired Modular for approximately $0.5 million. All these payments were included in "Acquisitions, net of cash acquired" under investing activities. We spent $0.1 million during the nine months ended September 30, 2013 on catalog costs. We had no spending on catalog costs for the nine months ended September 30, 2012. We spent $1.1 million and $1.2 million in the nine months ended September 30, 2013 and 2012 on capital expenditures, respectively.

Our financing activities have historically consisted of borrowings and repayments under a revolving credit facility, long-term debt, the issuance of common stock, including the common stock issued in our initial public offering, and repurchases of our common stock under a stock repurchase program. During the nine months ended September 30, 2013, financing activities generated cash of $12.5 million, compared to using $0.5 million during the nine months ended September 30, 2012. During the nine months ended September 30,2013, we borrowed $12.0 million and repaid $1.5 million of debt under our credit facility. During the nine months ended September 30, 2012, we borrowed $0.5 million and repaid $1.5 million of debt under our credit facility. Other financing activities for the nine months ended September 30, 2013 and 2012 included the net proceeds from the issuance of common stock of $2.3 million and $0.5 million, respectively, which related to exercises of stock options. During the nine months ended September 30, 2013 we incurred debt issuance costs of $0.3 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 and capital expenditures for 12 months and beyond. 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.

Impact of Foreign Currencies

We sell our products in many countries and a substantial portion of our sales, costs and expenses are denominated in foreign currencies, especially the British pound sterling, the Euro and the Swedish krona.

Changes in foreign currency exchange rates resulted in decreases in revenues of $0.1 million and expenses of $42,000 during the nine months ended September 30, 2013, compared to decreases in revenues of $1.2 million and expenses of $1.1 million during the nine months ended September 30, 2012.

The gain associated with the translation of foreign subsidiaries equity into U.S. dollars included as a component of comprehensive income, was approximately $2.4 million during three months ended September 30, 2013. This was due to the weakening of the U.S. dollar versus the British pound sterling, Euro and Swedish krona. During the third quarter the U.S. dollar weakened by approximately 6%, 4%, and 4% versus British pound sterling, Euro, and Swedish krona, respectively. The gain associated with the translation of foreign subsidiaries equity into U.S. dollars included as a component of comprehensive income, was approximately $0.5 million during the nine months ended September 30, 2013 compared to a gain of $1.0 million during the same period in 2012. In addition, currency exchange rate fluctuations included as a component of net (loss) income resulted in approximately $0.1 million foreign currency losses during the nine months ended September 30, 2013 and 2012.

Critical Accounting Policies

The critical accounting policies underlying the accompanying unaudited consolidated financial statements are those set forth in Part II, Item 7 included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2012 which was filed with the SEC on March 18, 2013. In addition, as described in Note 1 “Basis of Presentation and Summary of Significant Accounting Policies” of this report, effective June 5, 2013, we entered into an interest rate swap contract and added a “Derivatives” policy to our “Summary of Significant Accounting Policies”.

Item 3. 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, 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 September 30, 2013, we had $23.5 million outstanding under our Credit Agreement. On March 29, 2013, we entered into a Credit Agreement with Bank of America, as agent, and Bank of America and Brown Brothers Harriman & Co as lenders. The purpose of the Credit Agreement was to convert our existing outstanding revolving advances into a Term Loan in the principal amount of $15 million, provide a Revolving Line facility in the maximum principal amount of $25 million, and provide a DDTL of up to $10 million, reduced from $15 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. In October 2013 we amended the Credit Agreement to reduce the DDTL from up to $15 million to up to $10 million and allow for up to $5 million to instead 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 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 a notional amount of $15 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 the LIBOR rate associated with Term Loan at 0.96% plus a bank margin of 3.0%. The swap contract was associated with reducing or eliminating interest rate risk and was designated as a cash flow hedge instrument in accordance with ASC 815 “Derivatives and Hedging”. 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.

At September 30, 2013, based on the terms of our interest rate swap agreement the interest rate on our outstanding Term Loan was fixed at 3.96%. The interest rate on our outstanding Revolving Line was 3.18%. Assuming no other changes which would affect the margin of the interest rate under our Term Loan and Revolving Line, the effect of interest rate fluctuations on outstanding borrowings under our Credit Agreement as of September 30, 2013 over the next twelve months is quantified and summarized as follows:

If compared to the rate as of September 30, 2013	Interest expense increase
	(in thousands)
Interest rates increase by 1%	$ 100
Interest rates increase by 2%	$ 200

Item 4. 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.

As required by Rules 13a-15(e) and 15d-15(e) under the Exchange Act, 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 September 30, 2013. 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 SEC'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 Quarterly Report on Form 10-Q, 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 SEC's rules and forms.

We continue to review our internal controls over financial reporting, and may from time to time make changes aimed at enhancing their effectiveness and to ensure that our systems evolve with our business. These efforts have led to various changes in our internal controls over financial reporting. There were no changes in our internal controls over financial reporting that occurred during the third quarter ended September 30, 2013 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1A. Risk Factors

A restated description of the risk factors associated with our business was disclosed in Part II, Item 1A of our Quarterly Report on Form 10-Q for the period ended March 31, 2013 and filed with the SEC on May 10, 2013 . This description included any material changes to and supersedes the descriptions of the risk factors associated with our business previously disclosed in Part I, Item 1A of our Annual Report on Form 10-K for our fiscal year ended December 31, 2012, or Annual Report.

To our knowledge except for the risk factors described below and to the extent additional factual information disclosed in this Quarterly Report on Form 10-Q relates to such risk factors, there have been no material changes in the risk factors described in "Item 1A. Risk Factors" in our Quarterly Report on Form 10-Q for the period ended March 31, 2013, which was filed with the SEC on May 10, 2013 (the "March 2013 Form 10-Q").

The risk factor in the March 2013 Form 10-Q entitled "Our Credit Agreement contains certain financial and negative covenants, the breach of which may adversely affect our financial condition." is hereby restated as follows:

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 of October 31, 2013 and December 31, 2012, we had borrowings of $26.0 million and $13.0 million, respectively, 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; 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. We may be required to amend our credit facility, 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.

The following risk factors are hereby added to our risk factors set forth in the March 2013 Form 10-Q:

Third parties may seek to hold us responsible for Harvard Apparatus Regenerative Technology, Inc.'s liabilities, including liabilities that Harvard Apparatus Regenerative Technology, Inc., or 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. 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 spin-off of 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 expect to receive from Burns & Levinson LLP, special counsel to Harvard Bioscience, rely and will 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.

The tax rules applicable to a tax-free spin-off may restrict us from engaging in certain corporate transactions or from raising 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. 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.

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.

Item 6. Exhibits

Exhibit Index	
10.1	Employee Agreement dated August 26, 2013, between Harvard Bioscience, Inc. and Jeffrey Duchemin; filed as Exhibit 10.1 to the registrants' Form 8-K filed with the SEC on August 29, 2013 and incorporated herein by reference.
31.1+	Certification of Chief Financial Officer of Harvard Bioscience, Inc., pursuant to Rules 13a-14(a) and 15d-14(a), 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-14(a) and 15d-14(a), 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.LAB**	XBRL Taxonomy Extension Labels Linkbase Document
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document

\+ Filed herewith.

* 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.

** XBRL (Extensive Business Reporting Language) information is furnished and not filed or a part of a registration statement or prospectus for purposes of sections 11 or 12 of the Securities Act of 1933, is deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, and otherwise is not subject to liability under these sections.

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.

Date: November 8, 2013

HARVARD BIOSCIENCE, INC.

By: /S/ Jeffrey A. Duchemin
Jeffrey A. Duchemin
President and Chief Executive Officer

By: /S/ Robert E. Gagnon
Robert E. Gagnon
Chief Financial Officer

INDEX TO EXHIBITS

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Exhibit 31.1

Certification

I, Robert E. Gagnon, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q 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: November 8, 2013

/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 Quarterly Report on Form 10-Q 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: November 8, 2013

/s/ Jeffrey A. Duchemin
Jeffrey A. Duchemin
President and 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 Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2013 (the "Report") to which this certification is being furnished as an exhibit, 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: November 8, 2013

/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 Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2013 (the "Report") to which this certification is being furnished as an exhibit, 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: November 8, 2013

/s/ Jeffrey A. Duchemin

Name: Jeffrey A. Duchemin
Title: President and Chief Executive Officer