UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934
Date of Report (Date of earliest event reported): January 5, 2024

HARVARD BIOSCIENCE, INC.
(Exact name of registrant as specified in its charter)

Delaware	**001-33957**	**04-3306140**
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(I.R.S. Employer Identification No.)

84 October Hill Road
Holliston, MA 01746
(Address of Principal Executive Offices) (Zip Code)

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

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 par value	HBIO	The NASDAQ Stock Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 2.02. Results of Operations and Financial Condition

Attached as Exhibit 99.1 is an investor presentation, dated January 5, 2024, that provides an overview of Harvard Bioscience, Inc. (the "Company"). The investor presentation includes, among other things, preliminary, unaudited estimates of the Company's full year 2023 revenue (the "Preliminary Financial Information").

The Preliminary Financial Information contained in the investor presentation is unaudited and preliminary and does not present all information necessary for an understanding of the Company's financial condition as of December 31, 2023 or its results of operations as of such date. This Preliminary Financial Information is subject to completion of the Company's normal financial close procedures. These procedures and the audit of the Company's financial statements for the year ended December 31, 2023 are ongoing and could result in changes to the Preliminary Financial Information.

The information in this Current Report on Form 8-K (including Exhibit 99.1) is being furnished pursuant to Items 2.02 and 7.01 and shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed to be incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act. The information set forth in Items 2.02 and 7.01 shall not be deemed an admission as to the materiality of any information in this Current Report on Form 8-K that is required to be disclosed solely to satisfy the requirements of Regulation FD.

Item 7.01. Regulation FD Disclosure

The information contained in Item 2.02 is hereby incorporated into this Item 7.01 by reference.

Item 9.01. Financial Statements and Exhibits

(d) Exhibits.

Exhibit No.	Description
99.1	Harvard Bioscience, Inc. Investor Presentation
104	Cover Page Interactive Data File (embedded within the XBRL document)

SIGNATURE

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 the undersigned hereunto duly authorized.

HARVARD BIOSCIENCE, INC.

Date: January 5, 2024

By: /s/ Jennifer Cote
Jennifer Cote
Chief Financial Officer


Harvard Bioscience
Enabling discovery, safety and production of tomorrow's therapeutics
HBIO Investor Overview
Jim Green, Chairman, President & CEO
January 5, 2024

Forward-Looking Statements and Non-GAAP Financial Information

Forward-Looking Statements

This document contains forward-looking statements within the meaning of the federal securities laws, including the Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by the use of words such as "may," "will," "expect," "plan," "anticipate," "estimate," "intend" and similar expressions or statements that do not relate to historical matters. Forward-looking statements include, but are not limited to, information concerning expected future financial and operational performance including revenues, gross margins, earnings, cash and debt position, growth and the introduction of new products, and the strength of the Company's market position and business model. These forward-looking statements include the Company's estimated full year 2023 revenue, which is preliminary and unaudited and is subject to completion of the Company's financial close procedures. These procedures and the audit of the Company's financial statements for the year ended December 31, 2023, are ongoing and could result in changes to such estimated information. Forward-looking statements are not guarantees of future performance and involve known and unknown uncertainties, risks, assumptions, and contingencies, many of which are outside the Company's control. Risks and other factors that could cause the Company's actual results to differ materially from those described its forward-looking statements include those described in the "Risk Factors" section of the Company's most recently filed Annual Report on Form 10-K as well as in the Company's other filings with the Securities and Exchange Commission. Forward-looking statements are based on the Company's expectations and assumptions as of the date of this document. Except as required by law, the Company assumes no obligation to update forward-looking statements to reflect any change in expectations, even as new information becomes available.

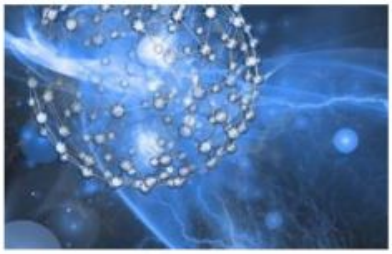
Management's Use of Non-GAAP Financial Information

This document includes non-GAAP financial information including one or more of adjusted operating income (loss), adjusted net income (loss), adjusted EBITDA, adjusted EBITDA margin, adjusted diluted earnings (loss) per share, foreign exchange adjusted revenue, net debt and net leverage ratio. We believe that this non-GAAP financial information provides investors with an enhanced understanding of the underlying operations of the business. For the periods presented, these non-GAAP financial measures have excluded certain expenses and income resulting from items that we do not believe are representative of the underlying operations of the business. Items excluded include stock-based compensation, amortization of intangibles related to acquisitions, litigation settlement, restructuring and other costs, gain/loss on equity securities, income taxes and the tax impact of the reconciling items. Management believes that this non-GAAP financial information is important in comparing current results with prior period results and is useful to investors and financial analysts in assessing the Company's operating performance. Non-GAAP historical financial statement information included herein is accompanied by a reconciliation to the nearest corresponding GAAP measure which is included as exhibits below.

With respect to forward-looking measures, we provide an outlook for adjusted EBITDA margin, and net leverage ratio. Many of the items that we exclude from these forward-looking measure calculations are less capable of being controlled or reliably predicted by management. These items could cause the forward-looking measures presented in our outlook statements to vary materially from our reported net income and other GAAP results.

The non-GAAP financial information provided in this presentation should be considered in addition to, not as a substitute for, the financial information provided and presented in accordance with GAAP and may be different than other companies' non-GAAP financial information.

Most trusted partner of leading academic research institutions, contract research organizations, pharmaceutical and bio-techs in the discovery, production, and safety & regulatory testing of tomorrow's life-saving therapies



COMPANY PROFILE

- Global sales footprint, 3 core manufacturing facilities
- Approx. 420 employees, 33 PhD, 54 Masters, 77 Bachelors
- Est. FY'23 Revenue: ~ $112.3M incl. $5.1M net discontinued*
- Q3'23 YTD Adj EBITDA: $10.9M (13% of rev), up 53% vs PY**
- 35%+ recurring revenues
- Founded 1901, Public Listing Dec. 2000 "NASDAQ: HBIO"
- Headquarters: Greater Boston, MA

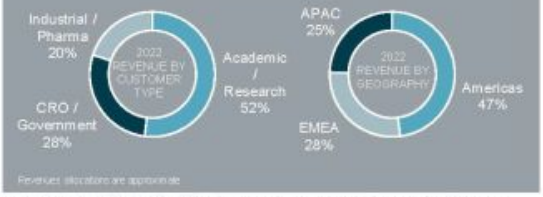
CELLULAR & MOLECULAR TECHNOLOGIES (CMT)

- Academic Research / BioPharma Discovery
- Leader in Electroporation / Electrofusion for gene editing
- Leader in high-density Micro Electrode Arrays (MEA) for advanced cellular applications

PRE-CLINICAL SYSTEMS

- Market leader GLP telemetry systems for safety pharmacology and toxicology regulatory reporting
- Data collection, analysis and regulatory report generation required prior to phase 1 clinical
- Widest range of wireless endpoint monitoring

BALANCED PORTFOLIO



Revenues allocations are approximate

* *Full year 2023 revenue is a preliminary, unaudited estimate and is subject to the Company's financial close procedures. These procedures and the audit of the Company's financial statements for the year ended December 31, 2023 are ongoing. Actual revenue may differ from the amounts shown. See slide 5 for information on net discontinued products.*

** *Information as of September 30, 2023. Non-GAAP measure; reconciliations to GAAP financial measures are available in Appendix.*

Harvard Bioscience Highlights

Essential, secular growth markets, high barriers, few competitors	Growing global marquee customer base
Global sales, application science and service structure	Highly effective sales channel supported by elite applications scientists
Technology leadership competitive advantage with high barrier innovative technologies	High barrier innovative technologies
Robust pipeline of next-gen solutions	Strong discipline, lean operating platform

DIVERSIFIED CUSTOMER / REVENUE MODEL

Systems & Software

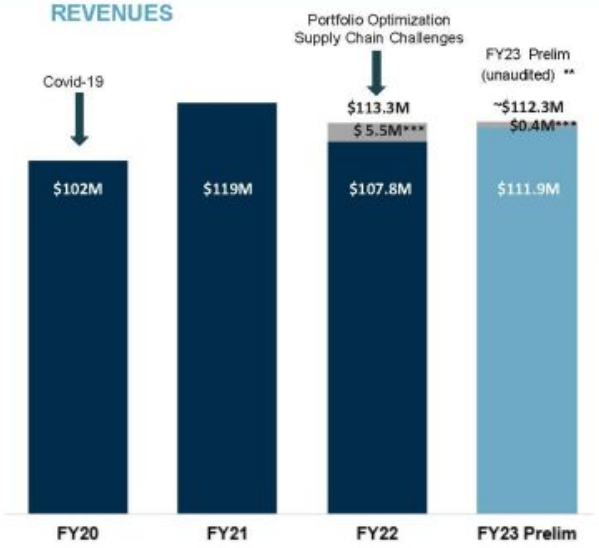
Consumables

Services

Sales and Earnings Trends

FY23 reported revenue down slightly from prior year (includes net headwind of $5.1M of discontinued products)

REVENUES



ADJUSTED EBITDA & EBITDA MARGINS*

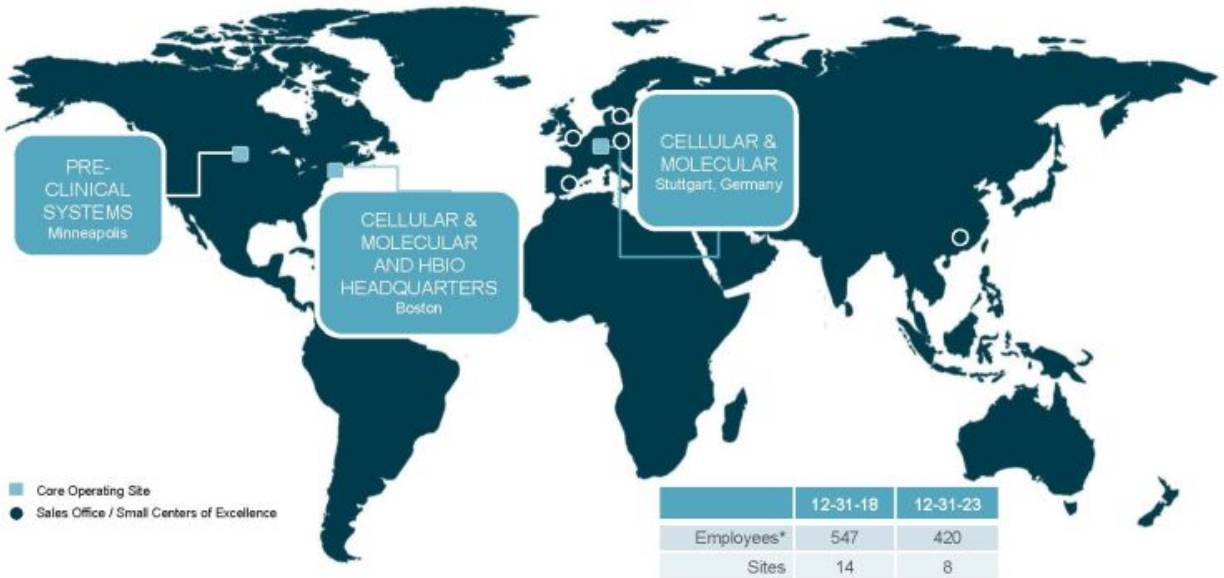
* *Non-GAAP measure; reconciliations to GAAP financial measures are available in Appendix.*

** *Full year 2023 revenue is a preliminary, unaudited estimate and is subject to the Company's financial close procedures. These procedures and the audit of the Company's financial statements for the year ended December 31, 2023 are ongoing. Actual revenue may differ from the amounts shown.*

*** *2022 Revenue includes $5.5 million in sales of discontinued products; 2023 Revenue includes estimated $0.4 million from sales of discontinued products; net difference is $5.1 million.*

**** *FY23 Guidance as presented in Q3 earnings release on November 7, 2023. This presentation is not a reaffirmation of guidance.*

Today's Global Footprint



	12-31-18	12-31-23
Employees*	547	420
Sites	14	8

*Headcount is approximate

Essential Technologies Serving Well-funded, High-growth Secular Markets Demographic Tailwinds

DRIVERS

Rising incidence of disease – cardiac, cancer, respiratory, diabetes, obesity, Alzheimer's, neurological, infectious

Increased funding for research and development of **advanced therapeutics**

Increased demand for research tools, devices and systems that improve efficiency & productivity and **enable therapeutics discovery and safety & regulatory through bio-production**

1) https://www.researchandmarkets.com/reports/5553406/pharmaceuticals-global-market-report-2023-by
2) https://www.acumenresearchandconsulting.com/biotechnology-market
3) https://www.emergenresearch.com/request-sample/1221
4) https://nces.nsf.gov/pubs/nsf22303
5) https://www.grandviewresearch.com/industry-analysis/preclinical-cro-market

*Internal estimates calculated based on publicly-available data

Blue Chip Customer Base

ACADEMIC RESEARCH

- Scientific Research labs primarily government & grant funded
- Early discovery of new novel drugs and compounds for therapies and vaccines
- Advanced cellular testing & gene editing

CONTRACT RESEARCH ORGANIZATIONS

- Pre-clinical studies to determine safety and efficacy of new pharmaceuticals
- Pharmaceutical companies are outsourcing significant pre-clinical activities to CROs

BIOTECH, PHARMACEUTICAL

- Perform early discovery and then transition from discovery through pre-clinical regulatory and on to production
- Leverage discoveries from academics & bio-techs
- Bridge to bio-production

MGH, MAYO CLINIC, UCSF, Duke, OXFORD, UNIVERSITY OF CAMBRIDGE, HARVARD UNIVERSITY, CDC

charles river, labcorp, MEDICILON, WuXi AppTec, ALTASCIENCES, inotiv, BATTELLE

AstraZeneca, REGENERON, abbvie, Pfizer, gsk, SANOFI, BAYER, Lilly, NOVARTIS, MERCK

Value Proposition

Breakthrough technologies and applications, increase innovative publications	Reduce test cycle-time, increase volume and study types, drives CROs revenue growth	Reduce development cycle time means more compounds drives BioPharma revenue growth

Subset of blue-chip recurring customers

Extend Technology Leadership in Academic Research & Discovery

Adapt Technologies to High Volume CRO & Bioproduction Applications

Strategic Growth Drivers

ACCELERATING REVENUE GROWTH

STRENGTHEN THE BASE

- Fortify leadership position and expand recurring revenue in therapy research and pre-clinical testing
- Pre-clinical Telemetry and GLP compliant Ponemah data management software for data reporting and analysis
- Electroporation/Transfection/ Amino Acid Analysis
- Micro-Electrode Arrays (MEAs) cellular electrophysiology

EXPAND HIGH VOLUME APPS

- Offerings for higher volume industrial customers including CROs, Biotech, Pharma and Government Labs
- Reduce cost and improve cycle time/throughput for therapy testing and development
- Expanded Ponemah functionality combined with new VivaMARS system opens door to new pre-clinical opportunities

EXPAND TO BIO-PRODUCTION

- Offerings for Biotech and Pharma customers engaged in therapy development and production
- Bridge from research to production in applications that scale with production volume
- Leverage technology leadership in Electroporation/Transfection

INNOVATE CELLULAR

- Offerings for Academic, Biotech, and Pharma customers engaged in therapy discovery, development and testing.
- New opportunities for streamlined *in vitro* testing from cell lines to organoids early in the therapy development cycle.
- Leverage leadership in Micro-Electrode Arrays (MEAs) & electrophysiology

Strengthen The Base: Maintain Leadership, Expand Recurring Revenue

Industry Leading Telemetry & Ponemah Data Management & Reporting Platform

GOLD STANDARD SUPPORTING CUSTOMER REQUIREMENTS FOR SAFETY AND REGULATORY APPROVAL FOR DRUGS, VACCINES, THERAPIES PRIOR TO HUMAN CLINICAL USE

- Gold standard: simultaneous multi-animal wireless telemetry
- Full menu offering from smallest to largest animal models
- Improved test yields/ reduced cycle time drives customer revenue growth

Industry Leading Electroporation/Electrofusion Systems

WELL ESTABLISHED TECHNOLOGY FOR NEW DRUG AND THERAPY COMPOUND CREATION

- Known for most challenging cell transfection
- BTX well established for cell modification, CAR-T Cell creation, CGT, CRISPR applications, electrofusion for monoclonal antibody creation

Leader in Electrophysiology & Micro-Electrode Arrays (MEAs)

LEADING TECHNOLOGY FOR IN VITRO ELECTROPHYSIOLOGY CELLULAR TESTING

- Leader in electrophysiology testing systems
- Discovery leader in MEA data acquisition

Expand Higher Volume Industrial Applications

AUTOMATED INFRARED TRACKING INTEGRATED WITH OUR INDUSTRY LEADING TELEMETRY/GLP PONEMAH DATA PLATFORM

Target Customers: CROs, Pharma, Gov Labs, Academic Cores

Applications

- High throughput drug discovery & development up to 100 subjects
- Neuropharmacology / neurotoxicity / Early CNS Drug Discovery
- Automated "no touch" remote monitored operation

Value Proposition

- Significantly lower operating costs
- Significantly reduced test cycle time accelerates revenue
- Benchmarked experiment: >2X throughput @ 50 subjects

Expand to Bio-Production: BTX Electroporation as a Bridge to Bio-Production

HBIO IS A PIONEER IN ELECTROPORATION AND ELECTROFUSION DRIVING NOVEL DISCOVERIES IN DRUG CREATION

Bio-production Applications

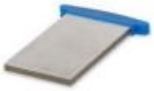
- Cell modifications, CAR T-Cell transfection, monoclonal antibodies
- Cell and Gene Therapy, CRISPR
- Small & Large molecule creation
- Low customer barriers, leverage design formulation

Electroporation / Electrofusion Consumables & Services

- General Use Cuvettes
- In Vitro Coaxial Chambers
- Flat Pack Higher Volume Reaction Chambers
- Services

Bio-Production Configuration: Optimum where Biotech or Pharma customer utilized our BTX to create the original compound

ECM 2001's



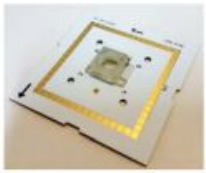
Consumable: Flatpack Reaction Chamber

Innovate: Mesh MEA™ Organoid Platform Built on Our Leading MEA Technology

MOVING TO HUMAN & PATIENT DERIVED LONG-LIFE ORGANOIDS FOR EARLY IN VITRO TESTING

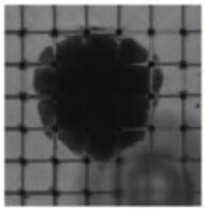
First In Vitro Embedded Electrophysiology Acquisition/Stimulation

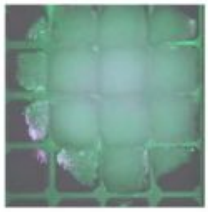
Today's Drug Testing	Immortalized Cells	Early Lg Pop Small Model	Small Animal Model Safety	
Potential Future Path	Immortalized Cells	**In Vitro with Human/Patient Organoids**	Small Animal Model Safety	



Vision:

- Replace/reduce large population early model with In Vitro human/patient testing
- Improve pre-clinical throughput/yield of successful compounds
- Target emerging organoids for neuro and cardio research/discovery
- Longer term applications for safety pharmacology & toxicology





Investment Thesis: Deliver Strong, Profitable, Long-Term Growth

NEW PRODUCT INTRODUCTIONS FOCUSED ON TOP-LINE GROWTH & RECURRING REVENUE

LARGE, LOYAL CUSTOMER BASE IN DRUG RESEARCH & DISCOVERY, SAFETY & REGULATORY, AND BIO-PRODUCTION MARKETS

FOCUSED ON LONG TERM TOPLINE GROWTH WITH 60% GROSS MARGINS & 20%+ ADJUSTED EBITDA MARGINS*

** Non-GAAP measure, reconciliations to GAAP financial measures are available in Appendix*


Harvard Bioscience
Enabling discovery, safety and production of tomorrow's therapeutics
Thank You

Appendix

Reconciliation of GAAP to Non-GAAP Financial Measures

HARVARD BIOSCIENCE, INC.
Reconciliation of GAAP to Non-GAAP Financial Measures
(in thousands)

	Year Ended 31-Dec-20	Year Ended 31-Dec-21	Year Ended 31-Dec-22	Q3 YTD'22 30-Sep-22	Q3 YTD'23 30-Sep-23
GAAP net loss	**($7,810)**	**($288)**	**($9,516)**	**($7,850)**	**($1,597)**
Stock-based compensation	3,647	4,169	4,411	3,401	3,618
Acquired asset amortization and impairment	5,920	6,018	6,236	4,588	4,167
Settlement, restructuring, & other	6,042	4,462	5,603	4,533	46
Unrealized loss on equity securities	-	-	-	-	374
Income taxes	(1,469)	(3,387)	(1,689)	(1,409)	(1,919)
Adjusted net income	**6,330**	**10,974**	**5,045**	**3,263**	**4,689**
Depreciation	1,712	1,603	1,338	1,024	1,054
Interest and other expense, net	5,637	2,206	2,426	1,889	3,095
Adjusted income taxes [1]	1,987	3,534	2,026	972	2,063
Adjusted EBITDA	**$15,666**	**$18,317**	**$10,835**	**$7,148**	**$10,901**
Revenue	**$102,100**	**$118,904**	**$113,335**	**$84,908**	**$84,097**
Adjusted EBITDA margin [2]	**15.3%**	**15.4%**	**9.6%**	**8.4%**	**13.0%**

(1) Adjusted income taxes includes the tax effect of adjusting for the reconciling items using the tax rates in the jurisdictions in which the reconciling items arise.

(2) Adjusted EBITDA margin % is calculated as Adjusted EBITDA / Revenue.