Harvard Bioscience

Enabling discovery, safety and production of tomorrow's therapeutics

HBIO Investor Overview

Jim Green, Chairman, President & CEO
Jennifer Cote, CFO and Treasurer

March 13-14, 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. 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.

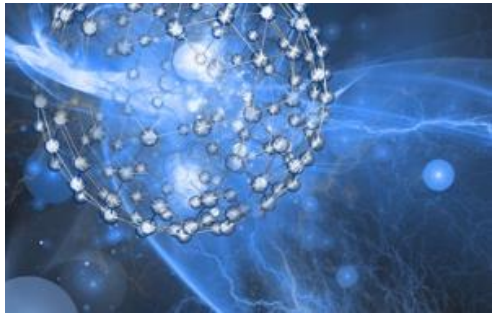
Management’s Use of Non-GAAP Financial Information

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, and foreign exchange adjusted revenue. 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 manufacturer / provider of advanced life science tools to the 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



CELLULAR & MOLECULAR

Leading provider of the latest technologies and tools necessary for research, discovery and creation of tomorrow's breakthrough drugs, vaccines and therapies.

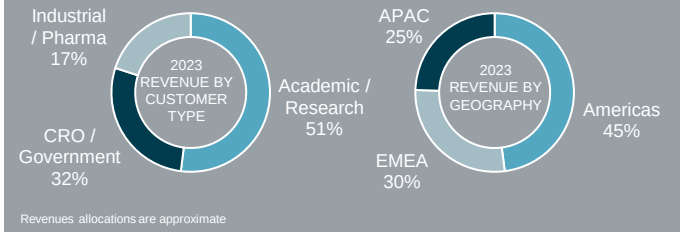
PRE-CLINICAL SYSTEMS

The market leading provider of the recognized gold standard for data acquisition, processing, and regulatory report generation for in-vivo animal model safety pharmacology and toxicology testing

COMPANY PROFILE

- Global sales footprint, 3 core manufacturing facilities
- Approx. 420 employees, 33 PhD, 54 Masters, 77 Bachelors
- FY'23 Revenue: $112.3M
- FY'23 Adj EBITDA: $14.6M (13% of rev), up 34% vs PY*
- 35%+ recurring revenues
- Founded 1901, Public Listing Dec. 2000 "NASDAQ: HBIO"
- Headquarters: Greater Boston, MA

BALANCED PORTFOLIO



Revenues allocations are approximate

* *Non-GAAP measure; reconciliation 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

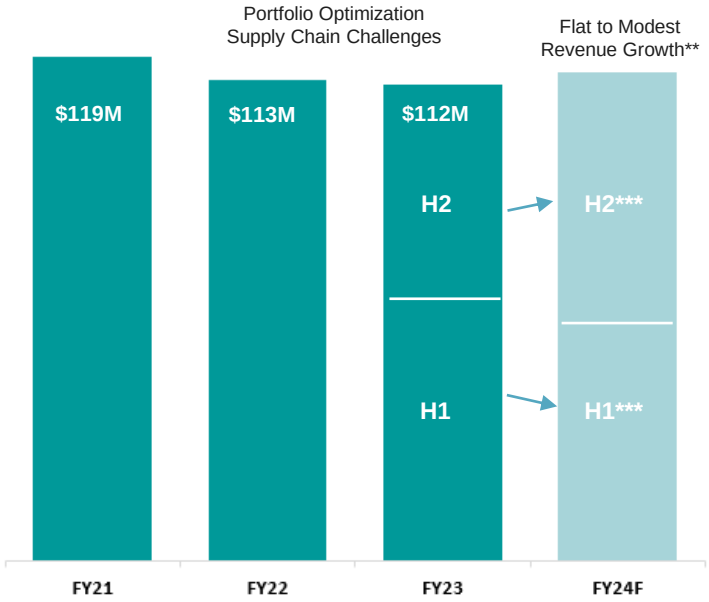
Consumables

Services

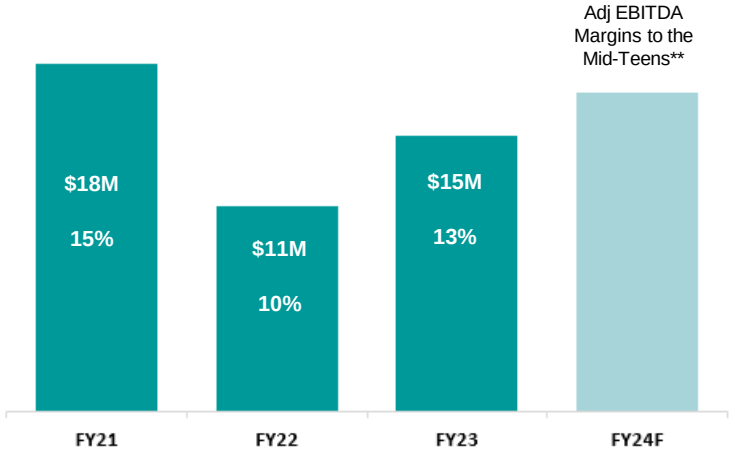
Sales and Earnings Trends

Expect weakness in the H1 of 2024 vs a strong 2023 comparison; Strong H2 2024 growth vs both H1 2024 and H2 2023***

REVENUES

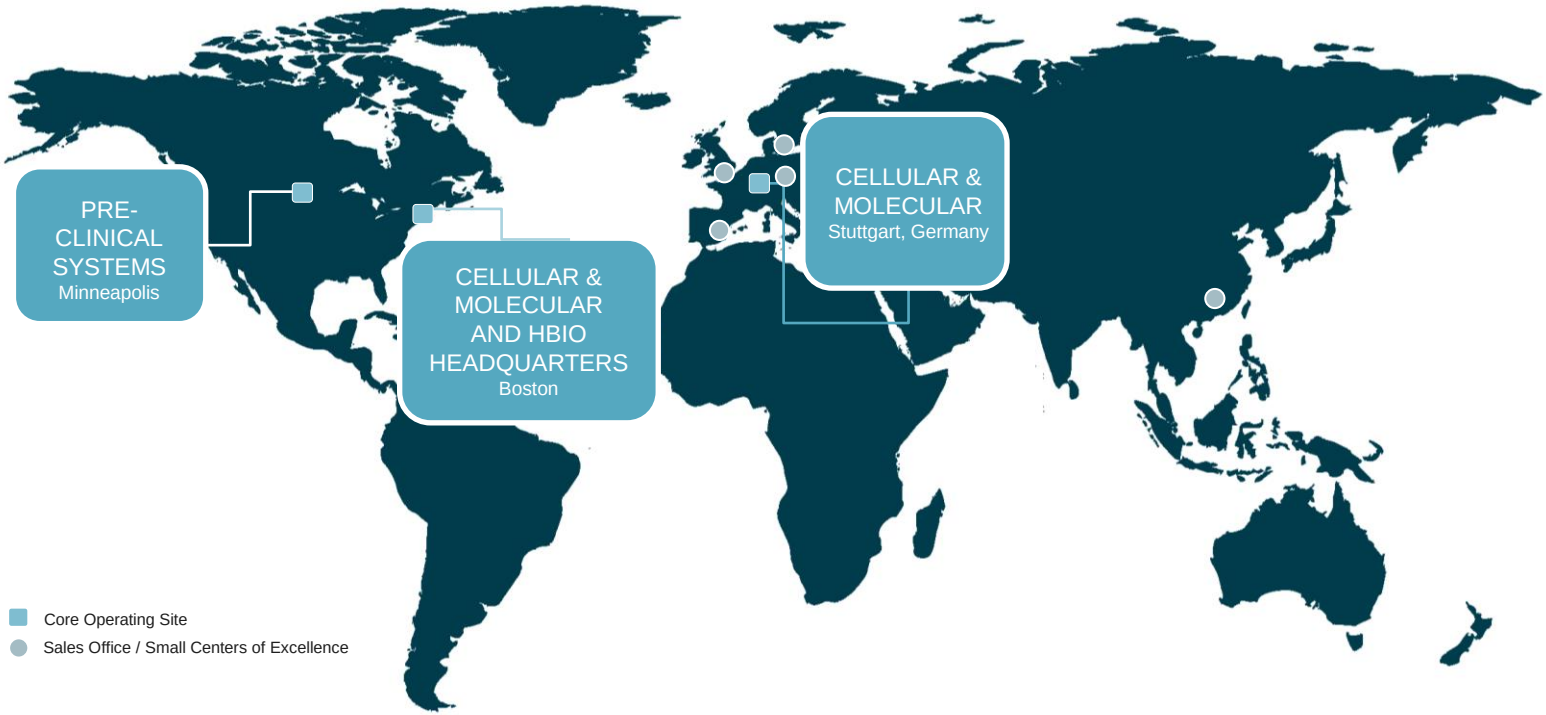


ADJUSTED EBITDA & EBITDA MARGINS*



* *Non-GAAP measure; reconciliations to GAAP financial measures are available in Appendix.*
** *FY24 Guidance as discussed in Q4 earnings release on March 7, 2024. This presentation is not a reaffirmation of guidance.*
*** *2024 H1/H2 is approximate for illustrative purposes.*

Today's Global Footprint



*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**

END MARKET SEGMENTS	PHARMACEUTICAL[1]	BIOTECH[2]	CONTRACT RESEARCH ORGANIZATIONS[3]	ACADEMIC RESEARCH[4]
Estimated size & projected CAGR	Global **$1.6T** 2022 7.7% 2022-2026	Global **$372B** 2021 15.5% 2022-2030	Global **$61B** 2021 10.9% 2021-2030	US Federal **$179B** 2021 9.3% 2016-2021
Estimated R&D expenditure within HBIO markets	R&D **$222B** (2021)*	R&D **$60B** (2021)*	Pre-clinical market **$5B** (2021)[5]	NIH Grants **$30.2B** (2021)*

1) https://www.researchandmarkets.com/reports/5553406/pharmaceuticals-global-market-report-2022-by
2) https://www.acumenresearchandconsulting.com/biotechnology-market
3) https://www.emergenresearch.com/request-sample/1221
4) https://ncses.nsf.gov/pubs/nsf22323
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 1811 · MAYO CLINIC · UNIVERSITY OF OXFORD · UCSF University of California San Francisco · Duke University · UNIVERSITY OF CAMBRIDGE · HARVARD UNIVERSITY · CDC Centers for Disease Control and Prevention

charles river · labcorp · MEDICILON 美迪西生物医药 · 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

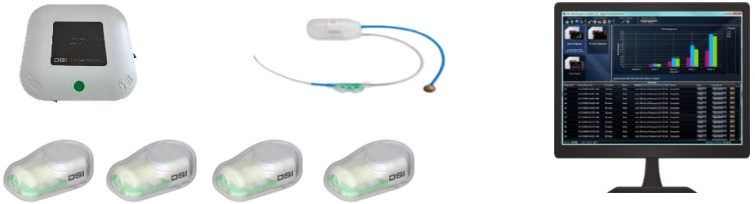
INNOVATE CELLULAR

- 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

VivaMARS: Launched at Nov. 2023 Society for Neuroscience

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

HPLC/ Amino Acid Analyzer (AAA)

- Recently adapted our clinical AAA to be cGMP compliant for bioproduction QC applications

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

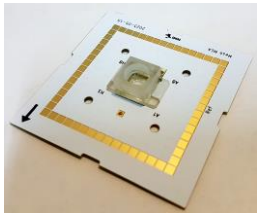
Today's Drug Testing

Immortalized Cells → Early Lg Pop Small Model → Small Animal Model Safety

Potential Future Path

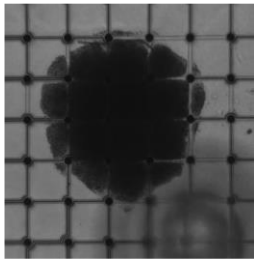
Immortalized Cells → **In Vitro with Human/Patient Organoids** → Small Animal Model Safety

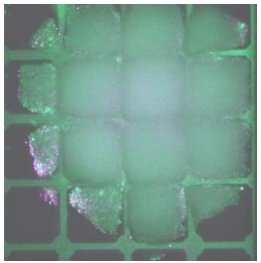
First In Vitro Embedded Electrophysiology Acquisition/Stimulation



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 MARGIN & 20%+ ADJUSTED EBITDA MARGIN*

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

Appendix

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	Year Ended 31-Dec-23
GAAP net loss	**$ (7,810)**	**$ (288)**	**$ (9,516)**	**$ (3,415)**
Stock-based compensation	3,647	4,169	4,411	5,000
Acquired asset amortization and impairment	5,920	6,018	6,236	5,561
Settlement, restructuring, & other	6,042	4,462	5,603	253
Unrealized loss on equity securities	-	-	-	632
Income taxes	(1,469)	(3,387)	(1,689)	(1,604)
Adjusted net income	**6,330**	**10,974**	**5,045**	**6,427**
Depreciation	1,712	1,603	1,338	1,440
Interest and other expense, net	5,637	2,206	2,426	4,221
Adjusted income taxes [1]	1,987	3,534	2,026	2,463
Adjusted EBITDA	**$ 15,666**	**$ 18,317**	**$ 10,835**	**$ 14,551**
Revenue	**$ 102,100**	**$ 118,904**	**$ 113,335**	**$ 112,250**
Adjusted EBITDA margin [2]	**15%**	**15%**	**10%**	**13%**

(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.