

Risk Factors Comparison 2025-03-14 to 2024-03-07 Form: 10-K

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The following factors should be reviewed carefully, in conjunction with the other information contained in this Annual Report on Form 10- K. As previously discussed, our actual results could differ materially from **the information included in** our forward- looking statements. Our business faces a variety of risks. These risks include those described below and may include additional risks and uncertainties not presently known to us or that we currently deem immaterial. If any of the events or circumstances described in the following risk factors occur **or develop**, our business operations, **financial** performance and financial condition could be **materially and** adversely affected, and the trading price of our common stock could decline. **Risks Related to Going Concern There is substantial doubt about our ability to continue as a going concern. As of December 31, 2024, there was indebtedness of \$ 37. 4 million outstanding under our term loan and senior revolving credit facility (collectively, the “ Credit Agreement ”). We were not in compliance with the consolidated net leverage ratio covenant contained in the Credit Agreement as of the December 31, 2024 test date. On March 10, 2025, we entered into an amendment to the Credit Agreement (the “ March 2025 Amendment ”) pursuant to which the lenders and administrative agent agreed to waive such non- compliance, subject to the terms contained in the March 2025 Amendment. The March 2025 Amendment provides, among other things, that our failure to achieve certain refinancing milestones, including receipt of a term sheet or commitment letter from one or more potential lenders, by the dates provided in the March 2025 Amendment or our failure to consummate a refinancing of the Credit Agreement by June 30, 2025, would, in either case, constitute an event of default under the Credit Agreement. In such event, in addition to other actions our lenders may require, the amounts outstanding under the Credit Agreement may become immediately due and payable. See “ Part II, Item 7. Management’ s Discussion and Analysis of Financial Condition and Results of Operations- Liquidity and Capital Resources ” of this report for additional information regarding the March 2025 Amendment. We are exploring alternative sources of capital that would allow us to refinance our outstanding indebtedness by June 30, 2025, in order to avoid default under the Credit Agreement, but our ability to access such other sources of capital is uncertain. There is no assurance that such capital will be available to us, be obtainable on commercially acceptable terms, or provide us with sufficient funds to meet our objectives. Based on our anticipated cash flows from operations, unless we are able to access other sources of capital or extend the date for repayment under the Credit Agreement, we will be unable to pay our debt obligations and fund our operations for at least twelve months from the date of issuance of the consolidated financial statements contained in this Annual Report on Form 10- K. As a result, there is substantial doubt about our ability to continue as a going concern. As discussed in Note 2 to the Consolidated Financial Statements included in “ Part IV, Item 15. Exhibits, Financial Statement Schedules ” of this report, our consolidated financial statements include an explanatory paragraph that such financial statements were prepared assuming that we will continue as a going concern, continue our operations for the foreseeable future and realize assets and settle liabilities in the normal course of business. The financial statements do not give effect to any adjustments to the amounts and classification of assets and liabilities that may be necessary should we be unable to continue as a going concern. Such adjustments could be material.**

Risks Related to Our Industry The life sciences industry is very competitive. We expect to encounter increased competition from both established and development- stage companies that continually enter the market. These include companies developing and marketing life science instruments, systems and lab consumables, health care companies that manufacture laboratory- based tests and analyzers, diagnostic and pharmaceutical companies, analytical instrument companies, and companies developing life science or drug discovery technologies. Currently, our principal competition comes from established companies that provide products that perform many of the same functions for which we market our products. Many of our competitors have substantially greater financial, operational, marketing and technical resources than we do. Moreover, these competitors may offer broader product lines and tactical discounts and may have greater name recognition. In addition, we may face competition from new entrants into the field. We may not have the financial resources, technical expertise or marketing, distribution or support capabilities to compete successfully in the future. In addition, we face changing customer preferences and requirements, including increased customer demand for more environmentally friendly products. The life sciences industry is also subject to rapid technological change and discovery. The development of new or improved products, processes or technologies by other companies may render our products or proposed products obsolete or less competitive. In some instances, our competitors may develop or market products that are more effective or commercially attractive than our current or future products. To meet the evolving needs of customers, we must continually enhance our current products and develop and introduce new products. However, we may experience difficulties that may delay or prevent the successful development, introduction and marketing of new products or product enhancements. In addition, our product lines are based on complex technologies that are subject to change as new technologies are developed and introduced in the marketplace. We may have difficulty in keeping abreast of the changes affecting each of the different markets we serve or intend to serve, and our new products may not be accepted by the marketplace or may generate lower than anticipated revenues. Our failure to develop and introduce products in a timely manner in response to changing technology, market demands, or the requirements of our customers could cause our product sales to decline, and we could experience significant losses. We offer, and plan to continue to offer, a broad range of products and have incurred, and expect to continue to incur, substantial expenses for the development of new products and enhancements to our existing products. The speed of technological change in our market may prevent us from being able to successfully market some or all of our products for the length of time required to recover development costs. Failure to recover the development costs of

one or more products or product lines could decrease our profitability or cause us to experience significant losses. A portion of our revenues is derived from customers in the pharmaceutical and biotechnology industries and is subject to the risks faced by those industries. Such risks may **materially and** adversely affect our financial results. We derive a significant portion of our revenues from pharmaceutical **and companies**, biotechnology companies, and CROs serving these companies. We expect that pharmaceutical **and companies**, biotechnology companies and CROs will continue to be a significant source of our revenues for the foreseeable future, including in our CMT and Preclinical product families. As a result, we are subject to risks and uncertainties that affect the pharmaceutical and biotechnology industries, such as government regulation, ongoing consolidation, uncertainty of technological change, and reductions and delays in research and development expenditures by companies in these industries. In particular, the biotechnology industry is largely dependent on raising capital to fund its operations. If biotechnology companies that are our customers are unable to obtain the financing necessary to purchase our products, our business and results of operations could be **materially and** adversely affected. In addition, we are dependent, both directly and indirectly, upon general health care spending patterns, particularly in the research and development budgets of the pharmaceutical and biotechnology industries, as well as upon the financial condition and purchasing patterns of various governments and government agencies. As it relates to both the biotechnology and pharmaceutical industries, many companies have significant patents that have expired or are about to expire, which could result in reduced revenues for those companies. If pharmaceutical or biotechnology companies that are our customers suffer reduced revenues as a result of these patent expirations, they may be unable to purchase our products, and our business and results of operations could be **materially and** adversely affected. ~~7~~**Changes** ~~Changes~~ in ~~governmental~~ **government** regulations may reduce demand for our products, adversely impact our revenues, or increase our expenses. We operate in many markets in which we and our customers must comply with federal, state, local and international regulations. We develop, configure and market our products to meet customer needs created by, and in compliance with, those regulations. These requirements include, among other things, regulations regarding manufacturing practices, product labeling, and advertising and post marketing reporting. We must incur expense and spend time and effort to ensure compliance with these complex regulations. Possible regulatory actions for non-compliance could include warning letters, fines, damages, injunctions, civil penalties, recalls, seizures of our products, and criminal prosecution. These actions could result in, among other things, substantial modifications to our business practices and operations; refunds, recalls, or seizures of our products; a total or partial shutdown of production in one or more of our facilities while we or our suppliers remedy the alleged violation; and withdrawals or suspensions of current products from the market. Any of these events could disrupt our business and have a material adverse effect on our revenues, profitability and financial condition. Risks Related to Our Business Reductions in customers' research budgets **due to reductions in government funding** or **delays in** government funding may adversely affect our business. Many of our customers are universities, government research laboratories, private foundations and other institutions ~~that are~~ **whose funding is** dependent on ~~grants~~ **both the level and timing of funding** from government agencies, such as the NIH, ~~for funding~~ **and similar domestic and foreign agencies**. These customers represent a significant ~~source~~ **portion** of our revenue. ~~Research and development spending by our customers may fluctuate based on spending priorities and general economic conditions.~~ The level of **funding and reimbursement rates under** government funding programs relied on by these customers is subject to the political process and is often **unpredictable**. For example, the NIH announced on February 7, 2025, a policy significantly reducing research grants by **limiting payments for indirect overhead** research and development is **unpredictable**. ~~Further~~ **In the past, government proposals to reduce or eliminate budget deficits have sometimes included reduced allocations to the NIH and other grants** have been frozen or otherwise made unavailable for extended periods or directed to certain products. Reductions or delays in ~~governmental~~ **government** spending could cause ~~agencies that fund our~~ **customers' activities** to delay or forego purchases of our products. ~~Our revenue may~~ **If government funding necessary for the purchase of our products were to decrease, our business and results of operations could be materially, adversely affected if our**. Spending by some of these customers fluctuates based on budget allocations **forgo or delay purchases of our products and services as a result of uncertainties resulting from the NIH announcement or the other** timely passage of the annual federal budget. An impasse in federal government budget ~~decisions~~ **proposals, including reduced allocations to government agencies that fund our customers' activities. NIH funding may not be directed towards projects and studies that require the use of our products and services. These factors** could **adversely affect** lead to substantial delays or ~~our~~ **reductions in federal spending business and financial results**. Our business is subject to economic, political and other risks associated with international ~~revenues~~ **sales** and operations. We manufacture and sell our products ~~worldwide~~ **internationally** and, as a result, our business is subject to risks associated with doing business internationally. A substantial amount of our revenues is derived from international operations, and we anticipate that a significant portion of our sales will continue to come from outside the United States in the future. We anticipate that revenues from international operations will likely continue to increase as a result of our efforts to expand our business in markets abroad. In addition, a number of our manufacturing facilities and suppliers are located outside the United States. Our foreign operations subject us to certain risks, including: effects of fluctuations in foreign currency exchange rates; the impact of local economic conditions; fluctuations or reductions in economic growth in overseas markets including Asia and Europe; ~~local~~ **product preferences and seasonality and product requirements in foreign markets**; ~~local difficulty~~ **difficulties to in** effectively ~~establish~~ **establishing** and ~~expand~~ **expanding** our business and operations in international markets; ~~disruptions of~~ **in foreign** capital **markets** and trading markets; restrictions and potentially negative tax implications of ~~transfer~~ **transfers** of capital across borders; differing labor regulations; **the imposition of tariffs or import or export restrictions by the United States or foreign governments**; other factors beyond our control, including potential political instability, terrorism, acts of war, natural disasters and diseases, ~~pandemics including COVID-19 discussed below~~; unexpected changes and increased enforcement of regulatory requirements and various state, federal and international, intellectual property, environmental, antitrust, anti-corruption, fraud and abuse (including anti-kickback and false claims laws) and employment laws; interruption

to transportation flows for delivery of parts to us and finished goods to our customers; and laws and regulations on foreign investment in the United States under the jurisdiction of the Committee on Foreign Investment in the United States, or CFIUS, and other agencies, including the Foreign Investment Risk Review Modernization Act, or FIRRMA, adopted in August 2018. A small percentage of our products are subject to export control regulations administered by the U. S. Department of the Treasury’ s Office of Foreign Assets Control (“ OFAC ”) and by the Export Administration Regulations administered by the U. S. Department of Commerce’ s Bureau of Industry and Security (“ BIS ”). Based on the nature of the product, its ultimate end use and country of destination, we are sometimes subject to foreign assets control and economic sanctions regulations administered by OFAC, which restrict or prohibit our ability to transact with certain foreign countries, certain individuals and entities identified on the Treasury Department’ s “ Denied Parties List. ” Under the OFAC regulations, the sale or transfer of certain equipment to a location outside the United States may require prior approval in the form of an export license issued by the BIS or the U. S. Department of State’ s Directorate of Defense Trade Controls. Some potential international transactions may also be restricted or prohibited based on the location, nationality or identity of the potential end user, customer or other parties to the transaction or may require prior authorization in the form of an OFAC license. These risks may be exacerbated by geopolitical tensions in various regions of the world such as China, the Asia- Pacific region and the Middle East. Any delay in obtaining required governmental approvals could affect our ability to conclude a sale or timely commence a project, and the failure to comply with all such controls could result in criminal and / or civil penalties. ~~These international transactions may otherwise be subject to tariffs and import / export restrictions from the United States or other governments.~~ Our overall success as a global business depends, in part, upon our ability to succeed in differing economic, social and political conditions. In order to continue to succeed in our international sales strategy, we must continue developing and implementing policies and strategies that are effective in each location where we do business, which could negatively affect our profitability. ~~Rising~~ **Rising** inflation and interest rates could negatively impact our revenues, profitability and borrowing costs. In addition, if our costs increase and we are not able to correspondingly adjust our commercial relationships to account for this increase, our net income would be adversely affected, and the adverse impact may be material. ~~Inflation rates, particularly in the U. S., have increased recently to levels not seen in years.~~ Sustained or increased inflation may result in decreased demand for our products, increased operating costs (including our labor costs), reduced liquidity, and limitations on our ability to access credit or otherwise raise debt and equity capital. In addition, the United States Federal Reserve has raised interest rates in response to concerns about inflation. Increases in interest rates have had, and could continue to have, a material impact on our borrowing costs. In an inflationary environment, we may be unable to raise the sales prices of our products at or above the rate at which our costs increase, which could reduce our profit margins and have a material adverse effect on our financial results and net income. We also may experience lower than expected sales if there is a decrease in spending on products in our industry in general or a negative reaction to our pricing. A reduction in our revenue would be detrimental to our profitability and financial condition and could also have an adverse impact on our future growth. We have substantial debt ~~and other financial obligations,~~ and we may incur even more debt. Any failure to meet our debt ~~and other financial obligations or~~ **our maintain lenders have waived our non-** compliance with **related certain of the** covenants **in** could harm our business, financial condition and results of operations. Our credit agreement provides for a term loan of \$ 40. 0 million and a \$ 25. 0 million senior revolving credit facility (collectively, the “ Credit Agreement ”). **If we fail to comply with the terms and conditions of the waiver will mature on December 22, 2025 or if we fail to comply with any covenants in the future, our lenders may require the amounts outstanding under the debt to become immediately due and payable.** As of December 31, ~~2023~~ **2024**, we had outstanding borrowings of \$ 37. ~~1~~ **4** million under the Credit Agreement. ~~We were not~~ Pursuant to the terms of the Credit Agreement, we are subject to various covenants, including negative covenants that restrict our ability to engage in **compliance with** certain transactions, which may limit our ability to respond to changing business and economic conditions. Such negative covenants include, among other ~~---~~ **the things,** limitations on our ability and the ability of our subsidiaries to incur debt or liens, make investments (including acquisitions), sell assets, and pay dividends on our capital stock. In addition, the Credit Agreement contains certain financial covenants, including a maximum consolidated net leverage ratio **covenant contained in the Credit Agreement as of the December 31, 2024 test date. Pursuant to the March 2025 Amendment, the lenders and administrative agent agreed to waive such non-** compliance subject to the terms contained in the March 2025 Amendment. The March 2025 Amendment provides, among other things, that the lender’ s commitment under our revolving credit facility is capped at the amount outstanding thereunder as of the date thereof and thus we are unable to make additional borrowings under our revolving credit facility. The March 2025 Amendment also provides that our failure to achieve certain refinancing milestones, including receipt of a term sheet or commitment letter from one or more potential lenders, by the dates provided in the March 2025 Amendment or our failure to consummate a refinancing of the Credit Agreement by June 30, 2025, would, in either case, constitute ~~and~~ **an event of default under the Credit Agreement. The lenders also agreed not to assert the financial covenants included in the Credit Agreement for the first quarter of fiscal year 2025 provided that we continue to comply with our payment obligations, achieve the refinancing milestones, provide the administrative agent with certain financial reports and maintain** a minimum level consolidated fixed charge coverage ratio, each of **liquidity as defined by** which will be tested at the March 2025 Amendment end of each fiscal quarter of the Company. If we are not able to **comply with the terms and conditions of the March 2025 Amendment, or if we are otherwise unable to regain and** maintain compliance with the covenants under the Credit Agreement, as amended, or are unsuccessful in obtaining waivers or amendments for any covenant ~~defaults~~ in the future, in addition to other actions our lenders may require, the amounts outstanding under the Credit Agreement may become immediately due and payable. See “ Part II, Item 7. Management’ s Discussion and Analysis of Financial Condition and Results of Operations- Liquidity and Capital Resources ” of ~~This~~ **this immediate report for additional information regarding the March 2025 Amendment. If we fail to satisfy these requirements, there can be no assurance that the lenders will not take action to**

collect payment may negatively impact of our debt or dispose financial condition. In addition, any failure to make scheduled payments of collateral securing the debt interest and principal on our outstanding indebtedness would likely harm our ability to incur additional indebtedness on acceptable terms. Our cash flow and capital resources may be insufficient to pay interest and principal on our debt in the future. If that should occur, our capital raising or debt restructuring measures may be unsuccessful or inadequate to meet our scheduled debt service obligations, which could cause us to default on our obligations and further impair our liquidity. Further, based upon our actual performance levels, our covenants relating to leverage and fixed charges could limit our ability to incur additional debt, which could hinder our ability to execute our current business strategy. Our ability to make scheduled payments on our debt and other financial obligations and comply with financial covenants depends on our financial and operating performance. Our financial and operating performance will continue to be subject to prevailing economic conditions and to financial, business and other factors, some of which are beyond our control. Failure within any applicable grace or cure periods to make such payments, comply with the financial covenants, or any other non-financial or restrictive covenant, would create a default under our Credit Agreement. Our cash flow and existing capital resources may be insufficient to repay our debt at maturity, in which such case prior thereto we would have to extend such maturity date, or otherwise repay, refinance and or restructure the obligations under the Credit Agreement, including with proceeds from the sale of assets, and additional equity or debt capital. If we are unsuccessful in obtaining such extension, or entering into such repayment, refinance or restructure prior to maturity, or acceleration of repayment any other default existed under the Credit Agreement, 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. Ethical concerns surrounding the use of Our inability to make additional borrowings under our revolving credit facility could materially affect our ability to fund our existing operations or execute our current business strategy. We may be unable to generate sufficient cash flow, and we may be forced to take actions, which may not be successful, to satisfy our obligations and fund our operations. Due to the consolidated net leverage ratio requirements in the Credit Agreement and based on the terms of the March 2025 Amendment, we are unable to make additional borrowings under our revolving credit facility. 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. Depending on our revenues and operating performance, our inability to make such additional borrowings could materially affect our ability to fund our existing operations and maintain our current liquidity position. Pursuant to the terms of the March 2025 Amendment, we must restructure or refinance the indebtedness underlying the Credit Agreement or seek additional capital to pay such indebtedness. If we are unable to raise sufficient capital on favorable terms and in a timely manner (if at all), our business and product development efforts could be seriously harmed, and we may be restricted in pursuing potential acquisitions or other business development opportunities as we may be forced to reduce or delay investments and capital expenditures. Our ability to restructure or refinance our debt will depend on, among other things, the condition of the credit markets, capital markets and our financial condition at such time. Any refinancing of our debt could be at higher interest rates and may require us to comply with more onerous covenants, which could further restrict our business operations. The terms of existing or future debt instruments may restrict us from adopting some of these alternatives. In addition, any failure to make payments of interest and principal on our outstanding indebtedness on a timely basis would likely result in a reduction of our credit rating, which could harm our ability to incur additional indebtedness. If we raise additional funds through collaborations or licensing arrangements, we may relinquish rights to certain of our technologies or products and misunderstanding or grant licenses to third parties on terms that are unfavorable. In the absence of sufficient cash flows and resources, we could face substantial liquidity problems and might be required to dispose of material assets or operations to meet our debt service and the other nature of obligations. The agreement governing our senior secured credit facility contains financial covenants and other covenants that may restrict our current and future operations, particularly our ability to respond to changes in our business or to take certain actions. Any failure to comply with these covenants could materially harm our business, financial condition, results of operations and liquidity. Pursuant to the terms of the Credit Agreement, we are subject to various covenants, including negative covenants that restrict our ability to engage in certain transactions, which may limit our ability to respond to changing business and economic conditions. Such negative covenants include, among other things, limitations on our ability and the ability of our subsidiaries to incur debt or liens, make investments (including acquisitions), sell assets, and pay dividends on our capital stock. In addition, the Credit Agreement contains certain financial covenants, including a maximum consolidated net leverage ratio and a minimum consolidated fixed charge coverage ratio, each of which is to be tested at the end of each fiscal quarter of the Company. The March 2025 Amendment contains a minimum liquidity requirement, which will be tested on a biweekly basis. The operating and financial restrictions and covenants in the Credit Agreement and any future financing agreements may adversely affect our ability to develop and sell finance future operations or capital needs existing products and new products. Some of our or products may engage in other business activities. Our management has identified material weaknesses in our internal controls over financial reporting as of December 31, 2024. Failure to establish and maintain effective internal controls over financial reporting could have a material adverse effect on our ability to report our financial condition, results of operations, or cash flows accurately and on a timely basis. As a publicly traded company, we are subject to the Sarbanes- Oxley Act of 2002 (“Sarbanes- Oxley Act”). The Sarbanes- Oxley Act requires that we maintain effective disclosure controls and procedures and internal controls over financial reporting. As part of its annual review of the effectiveness of our internal controls over financial reporting as of December 31, 2024, our management identified material weaknesses in our internal control over financial reporting. A material weakness is a deficiency or a combination of deficiencies in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim

financial statements will not be used in prevented or detected on a timely basis. The identified material weaknesses relate to the design and operating effectiveness of our internal controls over (i) our order to cash cycle and (ii) our physical count of inventories. As a result of these material weaknesses, our management also concluded that our disclosure controls and procedures were not effective as of December 31, 2024. We areas-- are of research involving animal research currently implementing a plan intended to remediate the material weaknesses described above. The identified material weaknesses will be considered remediated once additional internal controls are designed, implemented and operate effectively for a sufficient period of time to allow management to conclude that the material weaknesses have been fully remediated. However, there can be no assurance that we will be able to remediate fully the material weaknesses on a timely basis. We may also fail to identify other material weaknesses or significant deficiencies that could impair techniques presently being explored in the life science industry. These techniques have drawn negative attention in the public forum. Government authorities may regulate or our prohibit ability to report our financial condition and results of operations accurately or on a timely basis. Continued or future failure to maintain effective internal control over financial reporting could result in financial statements that do not accurately reflect our financial condition or results of operations, may result in material misstatements in our financial statements and may also restrict our future access to the capital markets. Further, because of the inherent limitations in any system of controls these activities. Additionally, the public may disfavor even effective internal control over financial reporting could fail to prevent or detect inaccuracies or misstatements. or For reject a discussion of our internal control over financial reporting and a description of these-- the activities identified material weaknesses and remediation plans, see “ Part II, Item 9A . Controls and Procedures ” of this Annual Report on Form 10- K. 9Foreign- Foreign currency exchange rate fluctuations may have a negative impact on our reported earnings. We are subject to the risks of fluctuating foreign currency exchange rates, which could have an adverse effect on the sales price of our products in foreign markets, as well as the costs and expenses of our foreign subsidiaries. A substantial amount of our revenues is derived from international operations, and we anticipate that a significant portion of revenues will continue to come from outside the United States in the future. As a result, currency fluctuations among the United States dollar, British pound, euro and the other currencies in which we do business have caused and will continue to cause foreign currency translation and transaction gains and losses. We have not used forward exchange contracts to hedge our foreign currency exposures. We attempt to manage foreign currency risk through the matching of assets and liabilities. In the future, we may undertake to manage foreign currency risk through hedging methods, including foreign currency contracts. We recognize foreign currency gains or losses arising from our operations in the period incurred. We cannot guarantee that we will be successful in managing foreign currency risk or in predicting the effects of exchange rate fluctuations upon our future operating results because of the number of currencies involved, the variability of currency exposure and the potential volatility of currency exchange rates. We cannot predict with certainty any certainty changes in foreign currency exchange rates or the degree to which we can address these risks. Issues in the development, deployment, and use of artificial intelligence technologies in our business operations, services and products may result in reputational harm, regulatory action, or legal liability, and any failure to adapt to such technological developments or industry trends could adversely affect the competitiveness of our business. Use of artificial intelligence (“ AI ”) to improve our internal business operations, or in the development or provision of products or services, poses risks and challenges. The use of AI, particularly generative AI, presents opportunities as well as risks that could negatively impact the business. The development, deployment, and use of AI, including within the life sciences industry, is still in its early stages, where the use of insufficiently developed AI technologies and premature deployment practices could result in unintended outcomes that harm the business. AI technologies may be developed using inaccurate, incomplete, flawed or biased algorithms, training methodologies or data, which could result in competitive harm, regulatory penalties, legal liability, or brand or reputational harm. Further, a failure to timely and effectively use or deploy AI and integrate it into new product offerings and services could negatively impact our competitiveness, particularly ahead of evolving industry trends and evolving consumer demands. We may be unable to devote adequate financial resources to develop or acquire new AI technologies and systems in the future. AI can pose risks from an intellectual property, confidential data leakage, data protection, privacy perspective, as well as raise ethical concerns, compliance issues, and security risks. The input of confidential information or trade secrets into AI systems may result in the loss of intellectual property, proprietary rights, or attorney- client privilege in such information or trade secrets. The use of AI technologies for developing products or services may adversely affect or preclude the company’ s intellectual property rights in such products or services, or may expose the company to liability related to the infringement, misappropriation or other violation of third- party intellectual property. The use of AI technologies with personally identifiable information may also result in legal liability. Further, particularly given the nascent stage of the technology, the use of AI can lead to unintended consequences, including the generation of outputs that appear correct but are factually inaccurate, misleading, or that result in unintended biases and discriminatory outcomes, or are otherwise flawed, which could harm our reputation and business and expose us to risks related to such inaccuracies or errors in these outputs. Moreover, AI is subject to a dynamic and rapidly evolving legal and regulatory environment, which, without appropriate review, governance and risk management, could expose the company to unforeseen legal or regulatory scrutiny and liabilities. As such, it remains uncertain how AI laws and regulations will impact our business or the associated cost or risks related to compliance therewith or with respect to embedding compliance mechanisms appropriately and effectively into our operations. The use of AI may be subject to new legal or regulatory requirements, the impact of which may be prohibitive or pose further risks from a legal or regulatory action perspective. Failure or inadequacy of our information technology infrastructure or software could adversely affect our day- to- day operations and decision- making processes and have an adverse effect on our performance. We depend on accurate and timely information and numerical data from key software applications to aid our day- to- day business, financial reporting and

decision-making and, in many cases, proprietary and custom-designed software is necessary to operate our business. Disruption caused by the failure of these systems, the underlying equipment, or communication networks could delay or otherwise adversely impact day-to-day business and decision making, could make it impossible for us to operate critical equipment, and could have an adverse effect on our performance. Our disaster recovery plans may not fully mitigate the effect of any such disruption. Disruptions could be caused by a variety of factors, such as catastrophic events or weather, power outages, or cyber-attacks on our systems by outside parties. ~~We review~~ **Our ERP systems are critical to our ability to accurately maintain books and records, record transactions, provide important information to our management and prepare our financial statements. The implementation of any IT systems, including ERP systems, has required in the past, and may continue to require investment of significant financial and human resources. In addition, we may not be able to successfully complete the implementation of the ERP systems without experiencing difficulties. Any disruptions, delays or deficiencies in the design and implementation of any** information technology (“IT”) systems ~~system~~ regularly to assess and implement opportunities to improve or upgrade our enterprise resource planning (“ERP”) or other information systems required to operate our business effectively. Our ERP systems are critical to our ability to accurately maintain books and records, record transactions, provide important information to our management and prepare our financial statements. The implementation of any IT systems, including ERP systems, has required in the past, and may continue to require, the investment of significant financial and human resources. In addition, we may not be able to successfully complete the implementation of the ERP systems without experiencing difficulties. Any disruptions, delays or deficiencies in the design and implementation of any IT system, including ERP systems could adversely affect our ability to process orders, ship products, provide services and customer support, send invoices and track payments, fulfill contractual obligations or otherwise operate our business. An information security incident, including a cybersecurity breach, could have a negative impact on our business or reputation. To meet business objectives, we rely on both internal IT systems and networks, and those of third parties and their vendors, to process and store sensitive data, including confidential research, business plans, financial information, intellectual property, and personal data that may be subject to legal protection. The extensive information security and cybersecurity threats, which affect companies globally, pose a risk to the security and availability of these IT systems and networks, and the confidentiality, integrity, and availability of our sensitive data. We continually assess these threats and make investments to increase internal protection, detection, and response capabilities, as well as ensure our third-party providers have the required capabilities and controls to address this risk. ~~We While we~~ have been, and may continue to be, subject to cybersecurity risks and incidents related to our business. ~~While, to date,~~ we have not experienced any material impact to the business or operations resulting from information or cybersecurity incidents; ~~however,~~ because of the frequently evolving tactics adopted by threat actors, along with the increased volume and sophistication of attacks by such threat actors, there is the potential for us to be materially adversely impacted in the future. This impact could result in reputational, competitive, operational or other business harm as well as financial costs and regulatory action. Additionally, the California Consumer Privacy Act of 2018 (the “CCPA”), which became effective on January 1, 2020, provides private rights of action for data breaches and requires companies that process information on California residents to make new disclosures to consumers about their data collection, use and sharing practices and allow consumers to opt out of certain data sharing with third parties. Compliance with the CCPA and other current and future applicable privacy, cybersecurity and related laws can be costly and time-consuming. Significant capital investments and other expenditures could also be required to remedy cybersecurity problems and prevent future breaches, including costs associated with additional security technologies, personnel, experts and credit monitoring services for those whose data has been breached. These costs, which could be material, could adversely impact our results of operations in the period in which they are incurred and may not meaningfully limit the success of future attempts to breach our information technology systems. We may be unable to renew leases or enter into new leases on favorable terms **or at all**. Our facilities are located in leased premises. **When such** ~~Several of our~~ leases will expire, **in 2024 and** we may be unable to renew such leases or enter into new leases on favorable terms **and conditions** or at all. **A Further, a** significant rise in real estate prices or real property taxes could also result in an increase in lease **cost expenses**, and thereby negatively ~~impacting~~ **impact** the Company’s results of operations and cash flow. As a result, we may incur additional costs including increased rent and other costs related to our renegotiation of lease terms for our facilities or for a new lease in a desirable location. ~~10We We~~ may incur additional restructuring costs or not realize the expected benefits of our initiatives to reduce operating expenses in the future. We may not ~~be able to implement all of the actions that we intend to take in the restructuring of our operations, and we may not be able to fully realize the expected benefits from~~ **such our recent** realignment and restructuring ~~plans initiatives~~ or other similar restructurings **restructuring initiatives that we may undertake** in the future. In addition, we may incur additional restructuring costs in implementing such realignment and restructuring plans or other similar future plans in excess of our expectations. The implementation of our restructuring efforts, including the reduction of our workforce, may not improve our operational and cost structure or result in greater efficiency of our organization; and we may not be able to support sustainable revenue growth and profitability following such restructurings. If we are not able to manage our growth, our operating profits may be adversely impacted. Our success will depend on the expansion of our operations through organic growth, and we may execute acquisitions in the future to augment this growth. Effective growth management will place increased demands on our management team, operational and financial resources and expertise. To manage growth, we must optimize our operational, financial and management processes and systems, and information technology infrastructure and hire and train additional qualified personnel. While we **continue to are** ~~currently in the process of evaluating~~ **evaluate** potential improvements to and consolidation of many of our processes and systems, we may not be able to implement these changes in an efficient or timely manner. Failure to manage our growth effectively, including failure to improve our systems and processes timely or efficiently, could impair our ability to generate revenues or could cause our expenses to increase more rapidly than revenues, resulting in operating losses or reduced profitability. We may incur a variety of costs in connection with acquisitions we may seek to consummate in the future, and we

may never realize the anticipated benefits of our acquisitions due in part to difficulties integrating the businesses, operations and product lines. Our business strategy has historically included the acquisition of businesses, technologies, services or products that we believe are a strategic fit with our business. If we were to undertake future acquisitions, the process of integrating the acquired business, technology, service and / or product (s) may result in unforeseen operating difficulties and expenditures and potentially absorb significant management attention that would otherwise be available for ongoing development of our business. Moreover, we may fail to realize the anticipated benefits of an acquisition as rapidly as expected, or at all. Such transactions are inherently risky, and any such recent or future acquisitions could reduce stockholders' ownership, cause us to incur debt, expose us to future liabilities and result in amortization expenses related to intangible assets with definite lives, which may adversely impact our ability to undertake future acquisitions on substantially similar terms. We may also incur significant expenditures in anticipation of an acquisition that is never realized. Our ability to achieve the benefits of acquisitions depends in part on the integration and leveraging of technology, operations, sales and marketing channels and personnel. Integration is a complex, time-consuming and expensive process and may disrupt our business if not completed in a timely and efficient manner. We may have difficulty successfully integrating acquired businesses, and their domestic and foreign operations or product lines, and as a result, we may not realize any of the anticipated benefits of the acquisitions we make. We cannot assure that our growth rate will equal the growth rates that have been experienced by us, and these other acquired companies, respectively, operating as separate companies in the past. ~~Failure to raise additional capital or generate the significant capital necessary to expand our operations, invest in new products, or pursue acquisitions or other business development opportunities could reduce our ability to compete and result in less revenues. We anticipate that our financial resources, which include available cash, cash generated from operations, and debt and equity capacity, will be sufficient to finance operations and capital expenditures for at least the next twelve months. However, this expectation is premised on the current operating plan, which may change as a result of many factors, including market acceptance of new products and future opportunities with collaborators. Consequently, we may need additional funding sooner than anticipated. In addition, our borrowings under the Credit Agreement may not be sufficient to support our pursuit of potential acquisitions or other business development opportunities. In such case, our inability to raise sufficient capital on favorable terms and in a timely manner (if at all) could seriously harm our business, product development, and acquisition efforts. In addition, our Credit Agreement contains various negative covenants that, among other things, restrict our ability to incur additional indebtedness and make acquisitions for aggregate consideration in excess of \$ 5.0 million. If future financing is not available or is not available on acceptable terms, we may have to alter our operations or change our business strategy. We cannot assure you that the capital required to fund operations, or our acquisition strategy will be available in the future.~~ If we fail to retain key personnel and hire, train and retain qualified employees, we may not be able to compete effectively, which could result in reduced revenue or increased costs. Our success is highly dependent on the continued services of key management, technical and scientific personnel. Our management and other employees may voluntarily terminate their employment at any time upon short notice. The loss of the services of any member of the senior management team, including the Chief Executive Officer or Chief Financial Officer or any of our managerial, technical or scientific staff, may significantly delay or prevent the achievement of product development, our growth strategies and other business objectives. Our future success will also depend on our ability to identify, recruit and retain additional qualified scientific, technical and managerial personnel. We operate in several geographic locations where labor markets are particularly competitive, including the Boston, Massachusetts and Minneapolis, Minnesota metropolitan areas, England, and Germany where demand for personnel with these skills is extremely high and is likely to remain high. ~~Additionally, the COVID-19 pandemic and other macroeconomic factors have exacerbated these challenges, contributed to a sustained labor shortage, and increased turnover rates.~~ As a result, competition for qualified personnel is intense, particularly in the areas of general management, finance, information technology, engineering and science, and the process of hiring suitably qualified personnel is often lengthy and expensive and may become more expensive in the future. If we are unable to hire and retain a sufficient number of qualified employees, our ability to conduct and expand our business could be seriously reduced. Our success will depend partly on our ability to operate without infringing on or misappropriating the intellectual property rights of others. We may be sued for infringing on the intellectual property rights of others, including the patent rights, trademarks and trade names of third parties. Intellectual property litigation is costly, and the outcome is uncertain. If we do not prevail in any intellectual property litigation, in addition to any damages we might have to pay, we could be required to stop the infringing activity, or obtain a license to or design around the intellectual property in question. If we are unable to obtain a required license on acceptable terms, or are unable to design around any third-party patent, we may be unable to sell some of our products and services, which could result in reduced revenue. Third parties may seek to hold us responsible for Harvard Apparatus Regenerative Technologies, Inc.'s ("HRGN") (formerly known as Biostage, Inc.) liabilities, including liabilities that HRGN has assumed from us. Third parties may continue to seek to hold us responsible for HRGN's liabilities, including any of the liabilities that HRGN agreed to retain or assume in connection with the separation of the HRGN business from our businesses, and related spin-off distribution. For example, in April 2022, we and HRGN entered into a settlement of a litigation relating to injuries allegedly caused by products produced by us and HRGN and utilized in connection with surgeries performed by third parties (the "HRGN Settlement"). The HRGN Settlement resolved and dismissed all claims by and between the parties. ~~Shares of common stock of HRGN held by the Company could fluctuate considerably in value and could become worthless. In connection with the HRGN Settlement, HRGN issued shares of its Series E Convertible Preferred Stock (the "Series E Preferred Stock") to the Company in satisfaction of \$ 4.0 million of HRGN's total indemnification obligations to the Company. In April 2023, all of the Series E Preferred Stock we held in HRGN were mandatorily converted into shares of HRGN common stock. As of December 31, 2023, we held shares of HRGN common stock with an estimated fair value of \$ 3.5 million. Due to HRGN's limited operating history, their overall financial condition, (including whether it can continue as a going concern without additional capital) and the limited trading volume and liquidity of HRGN's common stock, the value of this investment could fluctuate considerably or become worthless.~~ 12Risks -- **Risks**

Related to Our Common Stock Our stock price has fluctuated in the past and could experience substantial **additional** declines in the future. The market price of our common stock has experienced significant fluctuations and may become volatile and could decline **further** in the future, perhaps substantially, in response to various factors including, but not limited to: **• the substantial doubt with regard to our ability to continue as a going concern; • our business performance;** • volatility of the financial markets; • uncertainty regarding the prospects of the domestic and foreign economies; **and** • technological innovations by competitors or in competing technologies; ~~• revenues and operating results fluctuating or failing to meet our expectations or financial guidance, or the expectations of securities analysts, or investors; • comments of securities analysts and mistakes by or misinterpretation of comments from analysts, downward revisions in securities analysts' estimates or management guidance; • conditions or trends in the biotechnology and pharmaceutical industries; • announcements of significant acquisitions or financings or strategic partnerships; • non-compliance with the internal control standards pursuant to the Sarbanes-Oxley Act of 2002; and • a decrease in the demand for our common stock.~~ In addition, public stock markets have experienced extreme price and trading volatility. The stock market and the Nasdaq Global Market in general, and the biotechnology and life science tools industry and small cap markets in particular, have experienced significant price and volume fluctuations that at times may have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry factors may further harm the market price of our common stock, regardless of our operating performance. In the past, securities class action litigation has often been instituted following periods of volatility in the market price of a company's securities. A securities class action suit against us could result in substantial costs, potential liabilities and the diversion of management's attention and resources. If we raise additional funds through the sale of equity or convertible debt or **other** equity-linked securities, ~~existing percentages~~ **investors may experience significant dilution** of **their** ownership **interest** ~~in our common stock will be reduced and these transactions may dilute the value of our outstanding common stock.~~ We may raise additional funds through the sale of equity or convertible debt or **other** equity-linked securities to repay our existing indebtedness, implement our acquisition strategy, expand our operations ~~and/or~~ **invest in the development of** new products. If we raise additional funds through such sales, ~~existing percentages~~ **investors may experience significant dilution** of **their** ownership **interest** ~~in our common stock will be reduced and these transactions may dilute the value of our outstanding common stock.~~ We may issue securities that have rights, preferences and privileges senior to our common stock. If we raise additional funds **by obtaining loans from** through collaborations or licensing arrangements, we may relinquish rights to certain of our technologies or products, or grant licenses to third parties, **the terms of those financing arrangements may include negative covenants or other restrictions on terms our business that are unfavorable could impair our operational flexibility and would also require us to incur additional interest expense.**

~~13~~ **General** -- **General** Risks We are currently operating in a period of economic uncertainty and capital markets disruption, which has been significantly impacted by geopolitical instability due to military conflicts. Our business, financial condition and results of operations may be materially adversely affected by any negative impact on the global economy and capital markets resulting from the conflict in Ukraine, the Middle East or any other geopolitical tensions. U. S. and global markets are experiencing volatility and disruption following the escalation of geopolitical tensions globally, including military conflicts (such as the conflict between Russia and Ukraine and the conflicts in Israel and the Middle East). Although the length and impact of these conflicts are highly unpredictable, these conflicts could lead to market disruptions, including significant volatility in commodity prices, credit and capital markets, supply chain interruptions, and additional economic and financial sanctions. Any of the abovementioned factors could affect our business, prospects, financial condition, and operating results. The extent and duration of the military action, sanctions and resulting market disruptions are impossible to predict, but could be substantial. Any such disruptions may also magnify the impact of other risks described in this Annual Report on Form 10-K. Epidemics and pandemics ~~such as the COVID-19 pandemic~~ have had, and in the future may have, a material adverse impact on our business. Our operations and financial performance have been, and in the future may be, negatively impacted by public health crises, ~~such as the COVID-19 pandemic and other~~ epidemics and pandemics. Such events have caused, and may in the future cause, impacts such as reductions in economic activity (including volatility in demand for our products, services, and solutions, disruptions in global supply chains, and volatility in financial markets). Additionally, we have in the past experienced, and may in the future experience, operational challenges such as workplace disruptions, restrictions on the movement of people, raw materials, and goods (both at our own facilities and at those of our customers and suppliers), global supply chain disruptions, delays or disruptions in orders and order fulfillment, and price inflation. If we incur higher costs as a result of trade policies, treaties, government regulations or tariffs, we may become less profitable. There continues to be uncertainty about the relationship between the United States and foreign countries, including with respect to trade policies, treaties, government regulations and tariffs. ~~We are unable to predict whether~~ **The United States has recently instituted or when proposed changes in trade policies that include the negotiation or termination of trade agreements, the imposition of higher tariffs will be imposed on imports into the United States, economic sanctions on individuals, corporations or countries, and other government regulations affecting trade between the United States and other countries where we conduct our business. A number of other nations have proposed or instituted similar measures directed at trade with the United States in response. As a result of these developments, there may be imposed greater restrictions and economic disincentives on international trade that could materially and adversely affect or our business the impact of any such future tariff increases. We may be the subject of lawsuits from counterparties to acquisitions and divestitures, including an acquiring company or its stockholders, an acquired company's previous stockholders, a divested company's stockholders or our current stockholders. We may be the subject of lawsuits from either an acquiring company or its stockholders, an acquired company's previous stockholders, a divested company's stockholders or our current stockholders. Such lawsuits could result from the actions of the acquisition or divestiture target prior to the date of the acquisition or divestiture, from the acquisition or divestiture transaction itself or from actions after the acquisition or divestiture. Defending potential lawsuits could cost us significant expense and detract management's attention from the operation of the business.**

Additionally, these lawsuits could result in the cancellation of or the inability to renew certain insurance coverage that would be necessary to protect our assets. Rising commodity and precious metals costs could adversely impact our profitability. Raw material commodities, such as resins, and precious metal commodities, such as platinum, are subject to wide price variations. Increases in the costs of these commodities and the costs of energy, transportation and other necessary services may adversely affect our profit margins if we are unable to pass along any higher costs in the form of price increases or otherwise achieve cost efficiencies such as in manufacturing and distribution. Provisions of Delaware law, or of our charter and bylaws may make a takeover more difficult, which could cause our stock price to decline. Provisions in our certificate of incorporation and bylaws and in the Delaware corporate law may make it difficult and expensive for a third party to pursue a tender offer, change in control or takeover attempt, which is opposed by management and the board of directors. Public stockholders who might desire to participate in such a transaction may not have an opportunity to do so. We have a staggered board of directors that makes it difficult for stockholders to change the composition of the board of directors in any one year. These anti- takeover provisions could substantially impede the ability of public stockholders to change our management and board of directors. Such provisions may also limit the price that investors might be willing to pay for shares of our common stock in the future. ~~Item~~ **Item** 1B. Unresolved Staff Comments.