

The Company's Management's Discussion and Analysis ("MD&A") should be read in conjunction with the audited Consolidated Financial Statements and notes for the year ended September 30, 2023, prepared in accordance with International Financial Reporting Standards ("IFRS"), as issued by the International Accounting Standards Board and filed on SEDAR. Additional information relating to the Company, including its Annual Information Form ("AIF"), can be found on SEDAR at [www.sedar.com](http://www.sedar.com). Reference to "we", "us", "our", or the "Company" means Microbix Biosystems Inc. unless otherwise stated. All amounts are presented in Canadian dollars unless otherwise stated. Statements contained herein, which are not historical facts, are forward looking statements that are subject to certain risks and uncertainties that could cause actual results to differ materially from those set forth or implied. These forward-looking statements include, without limitation, discussion of financial results or the outlook for the business, risks associated with its financial results and stability, its antigens, quality assessment products, and viral transport medium businesses, development projects such as those referenced herein, sales to foreign jurisdictions, engineering and construction, production (including control over costs, quality, quantity and timeliness of delivery), foreign currency and exchange rates, maintaining adequate working capital and raising further capital on acceptable terms or at all, and other similar statements concerning anticipated future events, conditions or results that are not historical facts. These statements reflect management's current estimates, beliefs, intentions and expectations; they are not guarantees of future performance. The Company cautions that all forward looking information is inherently uncertain and that actual performance may be affected by a number of material factors, many of which are beyond the Company's control. Accordingly, actual future events, conditions and results may differ materially from the estimates, beliefs, intentions and expectations expressed or implied in the forward looking information. All statements are made as of the date of this disclosure and represent the Company's judgment as of that date and the Company disclaims any intent or obligation to update such forward-looking statements.

The Management Discussion and Analysis is dated December 19, 2023.

**COMPANY OVERVIEW**

Microbix Biosystems Inc. (Microbix or the Company) (TSX: MBX, OTCQX: MBXBF) is an award-winning life sciences innovator, manufacturer, and exporter making critical biological ingredients that enable the production of clinical diagnostics (referred to as antigens), creating and manufacturing medical devices, including quality assessment products that help ensure test accuracy (also known as QAPs™), and viral transport medium for enabling the collection of patient samples to test for pathogens such as the virus causing COVID-19 disease (branded as Dx™). In the context of Microbix's business, antigens are purified and inactivated bacteria, viruses, or their components which are used in the immunoassay format of medical tests to assess exposure to, or immunity from, those pathogens. QAPs are inactivated and stabilized samples of a pathogen or an analogue to a pathogen, that are created to resemble patient samples in order to support one or more of (i) the proficiency testing of clinical labs (usually unbranded "white label"), (ii) incorporated into kits of test consumables by multinational diagnostics companies (usually unbranded "white label"), (iii) test development, instrument validation and technician training (often individually branded as PROCEEDx® within ONBOARDx™ kits), or (iv) the quality management of patient test-workflows by clinical laboratories (branded as REDx®). Microbix' antigens and QAPs are sold to more than 100 customers worldwide, primarily to multinational diagnostics companies and laboratory accreditation organizations. Sales of antigens and QAPs are ongoing to the respective customer categories described. The first sales of fully-regulated "IVD" QAPs occurred in early January, 2019, and first sales of Dx™ were recorded in February, 2021. Sales of all varieties of QAPs are ongoing

**COMPANY OVERVIEW**

and growing, while sales of DxTM have stopped as Microbix's principal customers, agents of the Province of Ontario, have resumed 100% importation to satisfy domestic needs for this critical product.

Microbix also applies its biological expertise and infrastructure to develop other proprietary products and technologies, most notably Kinlytic® urokinase (Kinlytic), a biologic thrombolytic drug used to treat blood clots. An agreement to provide funding for the return of Kinlytic to the United States market was signed in May, 2023. The provision of the estimated C\$ 50 million of funding needed to relaunch Kinlytic was dependent on reconfirming prior United States FDA guidance received in 2017. Positive new guidance was received from the FDA this fall and Microbix's agreement partner, Sequel Pharma, LLC and its financial backers have in turn confirmed their satisfaction by providing their go-ahead notice and a tied milestone payment of US\$ 2.0 million received by Microbix on 15 November, 2023. With that payment, Microbix has thus far received a total of US\$ 4.0 million from Sequel, and expects to receive further milestone and royalty payments following the parties' submission of a supplemental Biologics Licensing Application (sBLA) and re-approval by FDA in approximately three years' time.

The COVID-19 pandemic and its health, economic, and societal impacts have affected all industries, including medical diagnostics. Government and public use of, funding for, and views about, infectious disease diagnostic testing changed as a result of the pandemic and such changes continue to impact Microbix's business and those of its customers. It remains challenging to foresee and adapt to such changes. For example, from early fiscal 2020 sales of antigens were reduced due to fewer patients seeking or receiving care in relation to diseases other than COVID-19. As of the end of calendar 2022 however, Microbix began to see evidence of antigen demand recovering toward pre-COVID levels and such demand has since become intense. Microbix is now needing to expand production capacity for multiple antigen products and is working to determine whether these higher levels of demand will be transient or persistent. Investment in expanding antigen capacity will be geared to satisfying immediate customer needs, while also improving process efficiency and gross margins. QAPs and DxTM likewise continue to be affected, with both positive and negative impacts.

On the whole, Management believes COVID has transitioned from pandemic to endemic, leading revenue from the antigens and QAPs business (Antigens & QAPs) to resume growth for the foreseeable future. Antigen sales growth may be largely driven by certain public health tests becoming more widely used in the Asia Pacific region and, more recently, increased global testing for multiple respiratory pathogens. QAPs sales growth are expected to be driven by several factors, namely (i) Microbix's creation of new value-added and proprietary products for test-makers and clinical laboratories, (ii) by increasing American, European and international quality-management regulation of clinical laboratories, and by increasing adoption of molecular testing (e.g., "PCR") by laboratories and at the point-of-care. For DxTM, production remains paused, due in large part to ongoing issues with the overall procurement processes of the Province of Ontario, which had been Microbix major client for that product. Currently, Microbix has no expectation that sales of DxTM for Ontario will resume and intends to retask this capacity to providing custom reagents to its test-maker customers, a transition that is ongoing.

The sales resulting from antigens, QAPs, and DxTM or reagent activities are targeted to provide free cash flow to cover operating and debt service costs, and funding for business initiatives that leverage Microbix's expertise.

Microbix owns and operates a biologicals manufacturing facility at 265 Watline Avenue in Mississauga, Ontario. For that facility, Microbix has a Pathogen and Toxin license issued by the Public Health Agency of Canada. The Company's administrative offices, along with further company-created production and lab spaces, are in a leased building located at 235 Watline Avenue, Mississauga, Ontario. A third adjacent site at 275 Watline Avenue was leased as of July, 2021 and renovations have since been ongoing to support DxTM or reagent production, quality-control laboratory space, workstations, and warehousing. Microbix is ISO 9001 & 13485 accredited, FDA & Health Canada establishment licensed, Australian TGA registered, and provides CE marked products.

**FINANCIAL OVERVIEW (Continued)****Year ending September 30, 2023 (“2023”)**

2023 revenue was \$16,514,776, a 13% decrease from 2022 revenues of \$19,076,241. Antigen sales grew by 16% to \$9,592,219 (2022 - \$8,287,908), while QAPs declined by 5% to \$5,087,321 (2022 - \$5,375,329). Revenue from DxTM was nil in 2023, down from \$5,004,359 the prior year, while royalties increased to \$484,718 (2022 - \$408,694). 2023 revenues were most influenced by the lack of DxTM sales, which was only partially offset by growth in Antigens and receipt of Kinlytic licensing revenues of \$1,348,500 (2022 - nil).

2023 gross margin was 45%, down from 2022 gross margins of 58%. Gross margins were impacted by increased labour, manufacturing, and supply chain costs; all due to inflationary pressures. In addition, the lack of DxTM sales negatively impacted gross margin due to product mix and an inventory write-off.

Operating and finance expenses in 2023 increased by 14% relative to 2022 principally due to increased investment in R&D projects for our QAPs business and incremental spending on implementation of ERP and eQMS systems. This was somewhat offset by reduced interest costs due to the repayment of debentures and BDC loans, plus greater interest income from short-term investments.

Lower sales, reduced gross margins, and increased operating expenses (due to increased investment into business growth and infrastructure) led to an operating loss (before finance expenses and reversal of impairment of intangible assets) of \$2,736,432, and a net loss of \$39,483 versus a 2022 operating income of \$2,610,213 and net income of \$1,788,689. Cash used in operating activities was \$1,094,561, compared to cash provided by of \$3,465,199 in 2022.

At the end of 2023, Microbix's current ratio (current assets divided by current liabilities) was 5.13 and its debt to equity ratio (total debt over shareholders' equity) was 0.45.

**Quarter Ending September 30, 2023 (“Q4”)**

Q4 revenue was \$4,264,229, relatively flat from Q4 2022 revenues of \$4,329,052. Included were antigen sales of \$2,977,179 (2022 - \$2,629,783), up 13% due to continued demand recovery. QAPs sales were down 25% to \$1,195,231 due to timing of deliveries (2022 - \$1,601,950). DxTM sales were \$nil in Q4 (2022 - nil), and royalties were \$91,820 (2022 - \$97,319). Year-over-year, Q4 sales were most influenced by growth in antigens, offset by weaker QAPs sales due to timing of shipment to customers and revenue recognition.

Q4 gross margin was 33%, down from 47% during Q4 2022 and due to a higher proportion antigen sales, the antigen product sales mix, increased antigen batch failures, and weaker QAPs sales in the quarter.

Operating expenses (including financial expenses) were up 4% in Q4 2023 when compared to Q4 2022. The quarter reflected both increased investment in R&D projects for our QAPs customers and increased IT infrastructure costs related to systems upgrades. This was offset by a reduction in interest costs due to the repayment of debentures and BDC loans and increased short-term investment income in fiscal 2023.

Overall, flat sales and less available gross margin dollars led to a Q4 2023 operating loss (before finance expenses and reversal of impairment of intangible asset) of \$990,563 and net income of \$1,997,273 versus Q4 2022 operating loss (before finance expenses and reversal of impairment of intangible asset) of \$256,885 and net loss of \$464,080. Cash used in operating activities was \$1,456,196 for Q4 2023, compared to cash provided by of \$146,437 for Q4 2022, reflecting increasing systems investments.

**FINANCIAL OVERVIEW (Continued)**
**Financial Highlights**

	For the years ended September 30		For the quarter ended September 30	
	2023	2022	2023	2022
Total Revenue	\$ 16,514,776	\$ 19,076,241	\$ 4,264,229	\$ 4,329,052
Gross Margin	7,481,334	11,124,842	1,425,194	2,020,539
S,G&A Expenses	8,171,026	6,715,354	1,851,021	1,832,907
R&D Expense	2,046,740	1,799,275	564,736	444,517
Operating Income (Loss) before Reversal of Impairment of Long Term Asset and Finance Expenses	(2,736,432)	2,610,213	(990,563)	(256,885)
Reversal of Impairment of Long Term Asset Finance Expenses	(3,078,585)	-	(3,078,585)	-
Income Tax Expense	381,636	744,290	90,749	129,961
Net Income (Loss) and Comprehensive Income (Loss) for the period	-	77,234	-	77,234
	(39,483)	1,788,689	1,997,273	(464,080)
Net Comprehensive Income (Loss) per share	(0.000)	0.013	0.014	(0.009)
Cash Provided (Used) by Operating Activities	(1,094,561)	3,465,199	(1,456,196)	146,436
Cash	11,606,487	13,488,075		
Accounts receivable	4,119,771	3,057,797		
Total current assets	22,302,006	22,408,372		
Total assets	35,653,024	33,145,196		
Total current liabilities	4,349,942	2,650,521		
Total liabilities	11,028,537	8,206,541		
Total shareholders' equity	24,624,487	24,938,655		
Current ratio	5.13	8.45		
Debt to equity ratio	0.45	0.33		

**SELECTED QUARTERLY FINANCIAL INFORMATION**

	Dec-31-21	Mar-31-22	Jun-30-22	Sep-30-22	Dec-31-22	Mar-31-23	Jun-30-23	Sep-30-23
	\$	\$	\$	\$	\$	\$	\$	\$
Total Revenue	4,855,600	4,880,564	5,011,025	4,329,052	2,502,072	4,218,323	5,530,152	4,264,229
Net Income (Loss) and Comprehensive Income (Loss)	880,778	733,489	638,502	(464,080)	(1,299,262)	31,616	(769,108)	1,997,273
Operating Income (Loss) before reversal of impairment of intangible assets and Finance Expenses	1,121,528	936,614	808,956	(256,885)	(1,202,184)	122,935	(666,618)	(990,563)

**OUTLOOK**

Microbix's business was started nearly 35 years ago by our founder, Bill Gastle, a skilled virologist, who retired in September, 2020 and passed away in September, 2023 (we miss you Bill). The first products were types of the growth media used in cell-culturing, which were sold to public health laboratories and research-oriented customers across Ontario. This was followed by such regional lab customers asking Microbix to do some of their bacteriological, cellular, and viral culturing work. In due course, international manufacturers of diagnostic tests learned of Microbix's abilities and approached the company to grow such organisms on an industrial scale, then purify and inactivate them to become "antigens" – the biological ingredients at the heart of "immunoassay" tests used to diagnose infection with, exposure to, or immunity from, bacteria and viruses.

That test-ingredients business remained Microbix's only major source of revenues for many years, and underpins its deep expertise in matters relating to infectious disease diagnostics. During those years, Microbix sought to branch out into other areas of healthcare, such as into the production of biological therapeutics and vaccines. Although it had much of the expertise required for such initiatives, it could not gain access to the capital required to bring those projects to fruition. That being recounted, one asset from that era remains in the Microbix portfolio, a well-validated biological "clot-buster" drug called Kinlytic<sup>®</sup> urokinase. Kinlytic had been written-off as an asset in September, 2020, as the pandemic made it impossible to predict whether or when an alliance to fund its return to market could be completed. As the pandemic subsequently ebbed, Kinlytic took a big step toward generating meaningful revenues by way of the partnering Agreement with a better-funded entity Sequel Pharma, LLC that was signed in May, 2023. Since that time, Microbix has received a total of US\$ 4.0 million in milestone payments from Sequel, which will now be fully-funding Kinlytic's return to clinical usage – initially into the United States for the US\$ 400 million sub-indication of catheter clearance. Microbix recognized a US\$1.0 million payment as revenue in Q3 of fiscal 2023, will recognize a further US\$ 3.0 million of revenues in Q1 of fiscal 2024, and will be eligible for further milestone payments and eventual royalties upon re-approval of Kinlytic for clinical use in the United States. In consequence, Microbix reversed the prior impairment of Kinlytic, restoring its prior cost-based intangible value of C\$ 3.1 million in Q4 of fiscal 2023.

Microbix's antigen test-ingredients business were 90% or more of sales for many years. Over the past five years however, Microbix has sought to more broadly employ its deep diagnostics industry expertise and thereby incrementally build its revenues. This effort has succeeded, with test-ingredients comprising only 43% of Microbix's sales in fiscal 2022, and 58% in fiscal 2023 – due to its creating and growing other revenue streams. While test ingredients sales are now resuming a growth trajectory, their proportion of overall company sales is expected to continue to decline – as a result of faster-growing sales of other product categories, such as QAPs.

Most notably, Microbix has been successfully transformed from being a manufacturer of less-regulated test-ingredients, into the producer of a catalogue of fully-regulated medical devices relating to infectious-disease diagnostic tests. The Company has thereby created new opportunities for both increasing sales and expanding gross margins. Specifically, Microbix medical devices products are innovative, proprietary, and branded – permitting access to new markets and customers at better margins than are usual for test-ingredients. Upgrading to the ISO 13485 medical devices quality standard, obtaining a Health Canada Medical Devices Establishment License, and taking the necessary steps to be able to sell into the EU, US, and other markets remain integral to those goals.

In medical devices, the first category of Microbix products are its diagnostic-test quality assessment products, which are branded as "QAPs<sup>™</sup>" and colloquially known as test-controls. The QAPs business started with providing mimics of positive patient-samples to enable assessment of the proficiency of clinical laboratories by industry accreditation agencies. Sales of Microbix QAPs were largely limited to that customer base and had come to exceed C\$ 1.0 million per year (i.e., about 10% of sales) when the COVID-19 pandemic began in early 2020 (the "Pandemic").

**OUTLOOK (Continued)**

While respiratory virus tests were not the principal focus of QAPs at that time, Microbix suspected the Pandemic in January of that year and validated its first COVID-related product by the end of March, 2020. Microbix has since supported governments and industry with many QAPs products related to testing for respiratory pathogens – to lab accreditation agencies, international test-makers, governments and hospitals, clinical labs, and many workplaces and schools. Respiratory disease has become an important portion of QAPs sales, but the Microbix portfolio has been expanded to include QAPs for many bacteria, viruses, and parasites that can cause acute sickness, chronic disease, and even cancers. Collectively, QAPs comprised 28% of sales across fiscal 2022, and over 30% in fiscal 2023, with Microbix expecting this segment to be its fastest-growing revenue source for the foreseeable future.

As the Pandemic emerged, Microbix was also quick to recognize the fragility of supply-chains for testing-related medical supplies. This alertness extended to noting pending shortages of viral transport medium (“VTM”), a medical device that is essential for stabilizing collected patient-samples in order that they remain intact while transported to, and when processed at, the central laboratories conducting most PCR-based tests. Having decades of expertise in producing complex cell-culturing media, Microbix volunteered to begin domestic production of VTM for the province of Ontario. With the assistance of a grant from the Ontario Together Fund of the Ministry of Economic Development, Job Creation, and Trade, Microbix created a VTM formulation to meet the exacting requirements of Public Health Ontario, perfected its methods, scaled its production, and became the only fully-regulated and validated local supplier to the Province. Sales of Microbix’s “DxTM™” brand VTM began in fiscal 2021 and comprised 26% of Microbix’s revenues in fiscal 2022. However, production and sales of DxTM are currently paused – due in large part to an ongoing reorganization of the procurement systems of the Province of Ontario. At present, the procurement authorities of the Province of Ontario have returned to purchasing imported VTM to satisfy 100% of domestic testing needs, a practice that seems at odds with political leaders’ stated objectives of security of supply and domestic manufacturing. As a result it is unclear if or when sales of DxTM will resume or the extent to which Microbix may be called to supply the needs of the Province of Ontario. Equipment purchased for DxTM production, much of which was acquired with direct encouragement and funding from government, will be redeployed for production of products for other, non-governmental, customers such as test-kit reagents and diluents.

Looking ahead, Microbix believes that it has considerable opportunities to continue growing its sales to the global diagnostics and clinical laboratory industries. Most notable among its business segments is QAPs, for which it has identified the Point-of-Care-Test (“PoCT”) companies as its most promising customers. While PoCT has been a promised innovation for many years, the Pandemic resulted in major investments to roll-out sophisticated and high-quality testing beyond central-lab settings. Today, table-top sized and portable PCR-based or antigen-based PoCT instruments are coming into widespread usage in settings such as local clinics, long-term care homes, pharmacies, schools, and workplaces. However, such PoCTs require accompanying test-controls to satisfy health regulators that errors relating to operators, consumables, or instruments will be quickly and reliably identified. Microbix QAPs are ideally-suited for that purpose, most notably when formatted onto the FLOQSwab™ flocked-swabs of Copan Italia S.p.A., made using Microbix’s innovative techniques, and protected by the intellectual property of each firm.

The largest of such opportunities involves FLOQSwab-based QAPs being incorporated into kits of PoCT cartridges at fixed ratios (e.g., 1 QAP per 20 PoCT tests) for use to help ensure test or test-workflow accuracy. With major international test-makers intending to sell millions of cartridges per month across multiple pathogen categories, it is not difficult to see how revenues may build for Microbix in this industry area. A first such alliance was announced by Microbix in August, 2022 with QuidelOrtho Corporation (QDEL on NASDAQ). Meaningful revenues are expected as that multinational test-maker, and others, wend their way through the needed design optimizations, regulatory approvals, and marketing launches for instruments and test kits. Further alliances of this nature continue to be developed by Microbix and are formalized and disclosed in due course, such as those with Speedx (Apr., 2021), Ulisse Biomed (Nov., 2023), BioGx (Dec., 2023), and Seegene USA (Dec. 2023).

**OUTLOOK (Continued)**

Microbix is also enhancing infrastructure to support its growth objectives and expectations. Such enhancements include investments into people, equipment, and systems. Concerning people, the Company continues to work to retain our current great team, while adding new members with further skills and capabilities. For equipment, Microbix is investing to improve reliability, enhance capacity, and remove drudgery. With systems, the Company has made and continues to make material investments into modernized and scalable Enterprise Resource Planning (ERP) software, alongside moving to a paperless Quality Management System (eQMS) – both of which are essential for Microbix continuing to grow the business. In the immediate term such investments tend to compress margins, but Management is convinced of their mid- and long-term benefits.

We thereby come to Microbix today and tomorrow. Already, a Company targeting annual sales of C\$ 25 million, with the goal of exceeding C\$100 million over the next several years. To do so, we have deep and broad life sciences capabilities and a strong financial position. We are likewise a fully-fledged medical devices firm poised to benefit from medical diagnostics being used more effectively and frequently than ever, via over 100 established international customer relationships. In summary, Management's financial goals are to achieve higher and more consistent sales volumes while expanding gross margins, thereby driving growth in net earnings, free cash flow, and the value of Microbix's common stock for all shareholders.

**LIQUIDITY, CASH FLOWS AND CAPITAL RESOURCES**

The consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards ("IFRS") on a going concern basis, which presumes the Company will continue operating for the foreseeable future and will be able to realize a return on its assets and discharge its liabilities and commitments in the normal course of business.

The Company has incurred historical losses resulting in an accumulated deficit of \$36,911,414 as at September 30, 2023. Management continuously monitors the financial position of the Company with respect to working capital needs, as well as long-term capital requirements compared to the annual operating budget. Variances are highlighted and actions are taken to ensure the Company is appropriately capitalized.

***Future Liquidity and Capital Needs***

The Company primarily funds new product development activities and capital expenditures from profits earned by its business and, periodically from additional equity and/or debt.

Over the course of fiscal 2023, a portion of working capital was judiciously employed on systems modernizations, capacity expansions, and process optimizations – approximately \$1.0 million of which was expensed and \$1.0 million capitalized. A further \$1.1 million was employed to repurchase and cancel common shares, to offset options dilution and somewhat stabilize trading in Microbix shares. Such investments were readily supported by our operations and Microbix continues to be in an enviable liquidity position as at September 30, 2023. Moving into fiscal 2024, Management expects cashflow to be positive due to: 1) continued growth in overall product sales, 2) improvements in product pricing or other sales terms, 3) greater sales of higher percentage gross margin products, and 4) manufacturing process optimization efforts, and 5) other business development and financial initiatives. Management expects these factors will continue to significantly improve the overall liquidity position, as the Company's plans come to fruition.

On July 29, 2019, the Company signed an agreement with Federal Economic Development Agency for Southern Ontario to provide a repayable government contribution where the Federal Development Agency has agreed to contribute funding for 30% of the Business Scale-up and Productivity Project expenditures made by the Company, up to \$2,752,500 over the following four years. The Company is required to submit eligible expenses on a quarterly basis to receive the interest-free contributions. On February 14, 2023 the Company agreed to an amendment to the original agreement providing an additional \$840,000 of repayable contributions, increasing the total funding up to \$3,592,500. Repayment of all contributions does not begin until December 15, 2024.

**LIQUIDITY, CASH FLOWS AND CAPITAL RESOURCES (Continued)*****Future Liquidity and Capital Needs (Continued)***

To support the continued growth of the business, on January 30, 2020, the Company completed a non-brokered private placement offering of an aggregate of 11,800,000 units for total gross proceeds of \$2,360,000. Each unit consisted of one common share of Microbix and one common share purchase warrant. Each warrant entitles the holder to purchase one additional common share at an exercise price of \$0.36 for five years. The financing was non-brokered. Cash commissions of \$104,300 were paid and an aggregate of 521,500 Broker's Warrants were issued in the private placement offering. Each Broker's Warrant entitles the holder to purchase one unit at a price of \$0.36 for a period of five years. All securities issued under the private placement were subject to a hold period which expired four months and one day from the date of closing.

In addition, on May 19, 2021, the Company completed a public offering and concurrent private placement offering of an aggregate of 11,500,000 units for total gross proceeds of \$6,900,000, and net proceeds of \$6,131,568 after share issuance costs of \$768,432. Each unit consisted of one common share of Microbix and one-half of one common share purchase warrant. Each whole warrant entitled the holder to purchase one additional common share at an exercise price of \$0.80 for two years. These warrants were subsequently extended for a further year to May 2024. The financing was a "bought deal", with co-lead underwriters of the Offering (iA Private Wealth Inc. and Bloom Burton Securities Inc.). Cash commissions of \$402,500 were paid and an aggregate of 670,833 Broker's Warrants were issued in the public offering. Each Broker's Warrant entitled the holder to purchase one unit at a price of \$0.60 for a period of two years. All securities issued under the concurrent private placement were subject to a hold period which expired four months and one day from the date of closing.

On October 13, 2020, the Company announced a grant agreement with the Ontario Together Fund ("OTF") of the Ministry of Economic Development, Job Creation and Trade (the "Grant"). The Grant of \$1,445,000 was to cover 50% of the cost to automate production of the Company's quality assessment products (QAPs™) that help ensure the accuracy of infectious disease diagnostic testing, and enable local, secure, and cost-effective automated production of the quantities of viral transport medium (generically "VTM" and branded "DxTM™") needed for Ontario's lab-based testing for COVID-19 disease or other tests of concern to public health or safety. An initial Grant disbursement, upon execution of the agreement, in the amount of \$867,000, was received on October 13, 2020. The remaining \$578,000 of the grant was paid upon project completion and a review of Eligible Project Expenditures incurred during the project, up to February 28, 2022. During the year ended September 30, 2021 the Company recognized \$717,587 (2020 - nil) of grant income. The company also recorded a \$680,202 reduction in capital asset costs.

During the year ending September 30, 2022, the Company received \$2,637,330 from the exercise of 7,480,293 warrants and received \$806,800 from the exercise of 2,960,00 options. In addition, a \$500,000 debenture was converted to 2,173,913 shares during the fourth quarter of fiscal 2022.

During fiscal 2022, the Company made an early repayment of the remaining outstanding principal relating to a \$2.0 million non-convertible 9% interest debenture. A payment of \$1,331,758, including accrued interest, was made on October 1, 2021. In addition, in April 2022 the Company repaid a non-convertible \$500,000 debenture when it came due.

On December 3, 2021 the Company prepaid in full the outstanding balance including accrued interest for a BDC loan, totaling \$266,094. See the long-term debt note for further details.

On March 20, 2023, the Company announced an additional grant agreement with the Ontario Together Fund ("OTF") of the Ministry of Economic Development, Job Creation and Trade (the "Grant"). The Grant of \$840,000 is to cover 50% of the cost to further expand our capabilities and capacity for manufacturing specialized products relating to diagnostic testing for infectious diseases. The Government of Ontario is supporting the expansions at Microbix's three adjacent sites in Mississauga. An initial Grant disbursement, upon execution of the agreement, in the amount of \$504,000, was received on March 13, 2023. The remaining \$336,000 of the grant will be paid upon project completion.

**LIQUIDITY, CASH FLOWS AND CAPITAL RESOURCES (Continued)*****Future Liquidity and Capital Needs (Continued)***

On May 16, 2023 announced the execution of an agreement (“Agreement”) to return Kinlytic® urokinase (“Kinlytic”) to market. Its Agreement is with Sequel Pharma, LLC (“Sequel”), a specialty pharma company with expertise in developing and commercializing drugs for the U.S. market that is funded by a leading private equity firm.

The Agreement provides for Sequel to fund and undertake the necessary work to return Kinlytic® to the U.S. for the clinical indication of venous catheter clearance, currently a US\$ 400 million per year market that is a monopoly. Long-term venous catheters are used to administer pharmaceuticals, nutrition, or dialysis, often needing to remain in place for extended periods. About 25% of such catheters become blocked with blood clots and, if not cleared, can require costly surgical replacement. On May 16, 2023, Microbix received an upfront payment of US\$ 2.0 million under the Agreement. Subsequent to year end the Company received the next milestone payment of US\$ 2.0 million in November 2023, alongside confirmation of full project funding for Kinlytic’s return to the U.S. market.

Microbix will continue to monitor and manage its cash position, with the objective of anticipating and meeting all current and future liquidity and capital needs.

**Outstanding Share Capital**

Share capital issued and outstanding as at September 30, 2023 was \$49,044,488 for 136,853,373 common shares and September 30, 2022 was \$49,918,916 for 138,991,373 common shares. The Company continues to repurchase shares through our NCIB, as outlined in the section below.

**Normal Course Issuer Bid (“NCIB”)**

On October 3, 2022 the Company initiated a Normal Course Issuer Bid (“NCIB”) program for the repurchase and cancellation of outstanding common shares. In accordance with the rules of the Toronto Stock Exchange and as detailed in the Company’s news release of September 28, 2022, the NCIB enabled the Company to repurchase up to 5% of its common shares over a 12-month period. During fiscal 2023 the Company repurchased 2,892,000 shares at a cost of \$1,114,156 and cancelled 2,589,000 shares.

On December 8, 2023 the Company initiated new Normal Course Issuer Bid (“NCIB”) program for the repurchase and cancellation of outstanding common shares. In accordance with the rules of the Toronto Stock Exchange and as detailed in the Company’s news release of December 6, 2023, the NCIB enables the Company to repurchase up to 5% of its common shares over a 12-month period.

**OFF-BALANCE SHEET ARRANGEMENTS**

The Company has no off-balance sheet arrangements that have or are reasonably likely to have a current or future material effect on its financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

**TREND INFORMATION**

Historical spending patterns are no indication of future expenditures. Investment in the new products and technologies is at the discretion of management and the board of directors. The Company is not aware of any material trends related to its business that have not been discussed in this Management Discussion and Analysis dated September 30, 2023.

**RISKS AND UNCERTAINTIES**

The Company has exposure to credit risk, liquidity risk and market risk. The Company's Board of Directors has the overall responsibility for the oversight of these risks and reviews the Company's policies on an ongoing basis to ensure that these risks are appropriately managed, including through the use of financial instruments where appropriate. Further discussion of the management of such risks is included in note 21 to the audited consolidated financial statements for the year ended September 30, 2023.

The Company is exposed to business risks, both known and unknown, which may or may not affect its operations. Management works continuously to mitigate unacceptable risk, while still allowing the business to grow and prosper. These risk factors include the following:

***A significant portion of Antigens Product sales are dependent on key clients, open borders, international transportation systems, and access to raw materials.***

A significant share of the Company's antigen product sales are sold to a few key customers globally. These products contributed a significant share of the revenues. The loss of a key customer, or restrictions on export, import, or international transportation of its products, raw materials or insufficient marketing resources, could materially impact revenue and profitability, as well as the value of inventories and other assets.

***Environmental, safety and other regulatory***

Microbix' research and manufacturing operations involve potentially hazardous materials. The Company takes extensive precautions to appropriately manage these materials as regulated by the applicable environmental and safety authorities. Changes in environmental and safety legislation may limit the Company's activities or increase costs. An environmental accident could adversely impact its operations. Microbix' antigen products are considered a production ingredient and not directly regulated by governments in Canada or other jurisdictions. Commercialization of certain quality assessment products require approval of regulatory agencies such as the FDA, in which case Microbix will not receive revenue until regulatory approval is obtained.

***Quality Assessment Products in development***

The Company has multiple quality assessment products under development, with the goal of building its sales of this category of product. There is no assurance that these development activities will result in the completion of new commercial products. If the Company is unable to develop and commercialize products, it will be unable to recover its related product development investments.

***Viral Transport Medium Products (DxTM)***

Microbix's DxTM is principally reliant upon sales to designates of the Government of Ontario. There is no assurance that sales to such designates will resume or that other customers will be secured.

***Product commercialization requires strategic relationships***

To commercialize large market products in development, Microbix may need to establish strategic partnerships, joint ventures or licensing relationships with pharmaceutical, biotechnology or animal genetics companies. It is possible the Company may be unable to negotiate mutually acceptable terms.

**RISKS AND UNCERTAINTIES (Continued)*****Operating and capital requirements***

Microbix seeks to earn a profit on the sale of its Antigens, QAPs and DxTM products, which is a major source of funding for its new product oriented research and development activities. The Company believes that cash generated from operations is sufficient to meet normal operating and capital requirements. However, the Company may need to raise additional funds, from time to time for several reasons including, to expand production capacity, to advance its current research and development programs, to support various collaboration initiatives with third parties, to underwrite the cost of filing, prosecuting and enforcing patents and other intellectual property rights, to invest in acquisitions, new technologies and new market developments. Additional financing may not be available, and even if available, may not be offered on acceptable terms.

***Future success may depend on successfully commercializing new products or technologies***

In the nearer term, Microbix must maintain and grow its existing product sales. To survive and prosper over the longer term, Microbix may need to commercialize new products or technologies. Such work is inherently uncertain and there is no guarantee that Microbix will be successful with its efforts.

***Failure to obtain and protect intellectual property could adversely affect business***

Microbix' future success depends, in part, on its ability to obtain patents, or licenses to patents, maintain trade secret protection and enforce its rights against others. The Company's intellectual property includes trade secrets and know-how that may not be protected by patents. There is no assurance that the Company will be able to protect its trade know-how. To help protect its intellectual property, the Company requires employees, consultants, advisors and collaborators to enter into confidentiality agreements. However, these agreements may not adequately protect trade secrets, know-how or other proprietary information in the event of any unauthorized use or disclosure. Protection of intellectual property may also entail prosecuting claims against others who the Company believes are infringing its rights or securing its freedom to operate relative to the rights of other parties. Involvement in intellectual property litigation could result in significant costs, adversely affecting the development of products or sales of the challenged product, or intellectual property, and divert the efforts of its scientific and management personnel, whether or not such litigation is resolved in the Company's favour.

***Microbix will continue to face significant competition***

Competition from life sciences companies, and academic and research institutions is significant. Many competitors have substantially greater resources and may have greater general capabilities in the areas of scientific and product development, legal review, manufacturing, sales and marketing, and financial support than Microbix. While the Company continues to expand its technological, commercial, legal and financial capabilities in order to remain competitive, Microbix' competitors may also be making significant investments in all of these areas, which could make it more difficult for Microbix to commercialize its products and technologies.

## FINANCIAL RISK MANAGEMENT

The primary risks affecting the Company are summarized below and have not changed during the fiscal year. The list does not cover all risks, nor is there an assurance that the strategy of management to mitigate the risks is sufficient to eliminate the risk.

**Credit risk:**

The Company's cash is held in accounts or short-term interest-bearing accounts at one of the major Canadian chartered banks. Management perceives the credit risk to be low. Typically the outstanding accounts receivable balance is relatively concentrated with a few large customers representing the majority of the value. With respect to the outstanding accounts receivable balance, as at September 30, 2023, five customers accounted for 81% (September 30, 2022 - five customers accounted for 56%). Concerning revenues, for the year ended September 30, 2023, five customers accounted for 64% (September 30, 2022 - five customers accounted for 58%). The Company has had minimal bad debts over the past several quarters and accordingly management has recorded an allowance of \$35,000 (September 30, 2022 - \$35,000).

**Currency risk:**

The Company is exposed to currency risk given its global customer base. 60-70% of its revenue is denominated in either U.S. dollars or Euros. The Company does not use financial instruments to hedge this currency risk. At September 30, 2023 and September 30, 2022, the significant balances, quoted in Canadian dollars, held in foreign currencies are:

	U.S. dollars		Euros	
	September 30 2023	September 30 2022	September 30 2023	September 30 2022
Cash and cash equivalents	\$ 2,168,075	\$ 302,698	\$ 25,225	\$ 87,613
Accounts receivable	\$ 2,700,930	\$ 1,645,040	\$ 1,043,883	\$ 1,221,837
Accounts payable and accrued liabilities	\$ 173,959	\$ 126,716	\$ 40,753	\$ 45,994

Based upon 2023 results, the impact of a 5% increase in the U.S. dollar against the Canadian dollar would result in an increase in annual U.S. dollar based revenue of approximately \$621,000 Cdn. The impact of a 5% increase in the Euro against the Canadian dollar would result in an increase in annual Euro based revenue of approximately \$164,500. Correspondingly, the impact of a 5% decrease in the U.S. dollar against the Canadian dollar would result in a loss in annual U.S. dollar based revenue of approximately \$621,000 Cdn. The impact of a 5% decrease in the Euro against the Canadian dollar would result in a loss in annual Euro-based revenue of approximately \$164,500.

**FINANCIAL RISK MANAGEMENT (Continued)****Liquidity risk**

Liquidity risk measures the Company's ability to meet its financial obligations when they fall due. To manage this situation, the Company projects and monitors its cash requirements to accommodate changes in liquidity needs. In addition, during fiscal 2017 the Company announced that it has arranged a secured revolving credit facility with The Toronto-Dominion Bank ("TD Bank") and Export Development Canada ("EDC"). The credit facility is being used to fund the Company's need for working capital to grow its existing business. When employed, this facility has helped to satisfy the Company's liquidity needs and to manage the liquidity risk.

**Interest rate risk**

Financial instruments that potentially subject the Company to interest rate risk include those assets and liabilities with a variable interest rate. Exposure to interest rate risk is primarily on the BDC debt that has a variable rate pegged to the bank rate. The rate can be fixed, if the outlook indicates interest rates will move higher. The only other variable debt the Company has is the \$2,000,000 line of credit that bears interest at the bank's prime lending rate plus 2.0%. As at September 30, 2023 the Company has not drawn on this line of credit. A 1% increase in the bank rate would cost the Company approximately \$17,000 per year for BDC and about \$20,000 on the line of credit usage if it were fully used throughout the fiscal year. However, this would be somewhat offset by increase interest income on our short-term investments.

**Market risk**

Market risk reflects changes in pricing for both Antigens & QAPs and raw materials based on supply and demand criteria; also market forces can affect foreign currency exchange rates as well as interest rates which could affect the Company's financial performance or the value of its financial instruments. Microbix products are valuable components in our customers' products and cannot be easily replaced. The Company works closely with customers to ensure its products meet their specific criteria.

**Fair value**

The fair value of a financial instrument is approximated by the consideration that would be agreed to in an arm's length transaction between willing parties and through appropriate valuation methods, but considerable judgement is required for the Company to determine the value. The actual amount that could be realized in a current market exchange could be different than the estimated value. The fair values of financial instruments included in current assets and current liabilities approximate their carrying values due to their short-term nature.

The fair value of the long-term debt is based on rates currently available for items with similar terms and maturities. The convertible and non-convertible debenture fair values are not readily determinable as the convertible debentures have been issued to shareholders of the Company. The fair values of financial instruments in other long-term liabilities approximate their carrying values as they are recorded at the net present values of their future cash flows, using an appropriate discount rate.

**CRITICAL ACCOUNTING ESTIMATES**

The preparation of these consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. The Company's audited consolidated financial statements are prepared in accordance with IFRS and the reporting currency is Canadian dollars. On an on-going basis, management bases its estimates on historical and other experience and assumptions, which it believes are reasonable in the circumstances. The significant accounting policies that the Company believes are the most critical in fully understanding and evaluating the reported financial results include:

**Intangible Assets**

Intangible assets include technology costs, patents, trademarks and licenses. Each is recorded at cost and amortized on a straight-line basis over the term of the agreements or useful life of the asset. Amortization commences when the intangible asset is available for use. Intangibles with definite lives but not yet available for use are assessed at least annually for impairment or more frequently if there are indicators of impairment.

**Impairment of Long-lived Assets**

The Company reviews the carrying value of non-financial assets with definite lives for potential impairment when events or changes in circumstances indicate that the carrying amount may not be recoverable. The carrying value of non-financial assets with definite lives but are not ready for use, are assessed at least annually for impairment based on the impairment test on cash-generating units (CGUs). The impairment test on CGUs is carried out by comparing the carrying amount of the CGU and its recoverable amount. The recoverable amount of a CGU is the higher of fair value less costs to sell and its value in use. This complex valuation process entails the use of methods such as the discounted cash method which requires numerous assumptions to estimate future cash flows.

The recoverable amount is impacted significantly by the discount rate selected to be used in the discounted cash flow model, as well as the quantum and timing of risk-adjusted future cash flows and the growth rate used for the extrapolation. The impairment loss is calculated as the difference between the fair value of the asset and its carrying value.

**Convertible Debentures**

Management determines the fair value of the debenture using valuation techniques. Those techniques are significantly affected by the estimated assumptions used, including discount rates, expected life and estimates of future cash flows.

**Deferred income taxes**

Deferred income tax assets and liabilities are recognized for the estimated income tax consequences attributable to differences between financial statement carrying amounts of assets and liabilities and their respective income tax bases. Deferred income tax assets and liabilities are measured using tax rates expected to be in effect when the temporary differences are expected to be recovered or settled. The effects of changes in income tax rates are reflected in future income tax assets and liabilities in the year that the rate changes are substantively enacted.

**CRITICAL ACCOUNTING ESTIMATES (Continued)****Share-based payments**

The Company applies the fair value method of accounting for stock-based compensation for awards granted to officers, directors, employees and consultants of the Company. The fair value of the award at the time of granting is determined using the Black-Scholes option pricing model, and recognized as a compensation expense on a straight-line basis over the vesting period with an offsetting amount recorded to contributed surplus. The amount of the compensation cost recognized at any date at least equals the value of the portion of the options vested at that date. When stock options are exercised, the consideration paid by employees or directors, together with the related amount in contributed surplus, is credited to capital stock. When an employee leaves the Company, vested options must be exercised within 90 days, or the options expire. Any unvested options pertaining to departing employees are reversed in the reporting period during which that employee leaves the Company.

**Revenue Recognition Variable**

Revenue Recognition Variable consideration included within a revenue arrangement requires significant judgement to determine the amount and timing of revenue recognition due to revenue being constrained until it is highly probable that a significant revenue reversal in the amount of cumulative revenue recognition will not occur.

**FINANCIAL INSTRUMENTS**

The fair value of a financial instrument is approximated by the consideration that would be agreed to in an arm's length transaction between willing parties and through appropriate valuation methods, but considerable judgment is required for the Company to determine the value. The actual amount that could be realized in a current market exchange could be different than the estimated value.

The carrying amounts of cash and cash equivalents, accounts receivable, bank indebtedness, accounts payable and accrued liabilities approximate fair value due to the short-term maturities of these instruments. Based on available market information, the fair value of the obligation under capital lease approximates its carrying value.

The fair value of the long-term debt is based on rates currently available for items with similar terms and maturities. The fair value of the liability for each convertible debenture has been calculated and the residual is accounted for in equity. The Company does not have any off balance sheet financial instruments.

**Disclosure Controls**

The Chief Executive Officer and the Chief Financial Officer have evaluated the effectiveness of the Company's disclosure controls and procedures, as defined in the National Instrument 52-109 Certification of Disclosure in Issuer's Annual Filings (NI 52-109F1). As at September 30, 2023, management has concluded that the disclosure controls are effective in providing reasonable assurance that information required to be disclosed in the Company's reports is recorded, processed summarized and reported within the time periods specified in the Canadian Securities Administrator's rules and forms.

**Internal Controls Over Financial Reporting**

The design of internal controls over financial reporting ("ICFR") within the company is a management responsibility to provide reasonable assurance that the reliability of financial reporting and that the preparation of financial statements for external purposes is in accordance with generally accepted accounting principles of IFRS. While the CEO and CFO believe that the internal controls are adequate to provide the above information, the process to evaluate and document all policies and procedures that could impact financial reporting is continuously reviewed with consultation with the Audit Committee. Shareholders should be aware that Microbix is a small company without the department resources associated with larger firms. Management is using the Committee of Sponsoring Organization of the Treadway Commission ("COSO"). Framework and has concluded that the Internal Control over Financial Reporting ("ICFR") as defined in NI 52-109 is effective as

**FINANCIAL INSTRUMENTS (Continued)****Internal Controls Over Financial Reporting (Continued)**

at the period ended September 30, 2023. Examination by the Chief Executive Officer and the Chief Financial Officer showed that there were no changes to the internal controls over financial reporting during the period ended September 30, 2023 that have materially affected, or are reasonably thought to materially affect, the internal control over financial reporting.

**CHANGES IN ACCOUNTING POLICIES****Amendments to IAS 37: Onerous Contracts (“IAS 37”)**

In May 2020, the IASB issued amendments to IAS 37, Provisions, Contingent Liabilities and Contingent Assets, to specify that the cost of fulfilling a contract comprises the costs that relate directly to the contract, and can either be incremental costs of fulfilling that contract or an allocation of other costs that relate directly to fulfilling contracts. The new guidance will be effective for annual periods beginning on or after January 1, 2022 and will be applied to contracts that have unfulfilled obligations as at the beginning of that period. The Company has concluded that there is no impact of adopting these amendments on its consolidated financial statements.

**Amendments to IFRS 9, Financial Instruments (“IFRS 9”)**

As part of its 2018-2020 annual improvements to IFRS standards process, the IASB issued an amendment to IFRS 9. The amendment clarifies the fees that an entity includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability. These fees include only those paid or received between the borrower and the lender, including fees paid or received by either the borrower or lender on the other's behalf. An entity applies the amendment to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment. The amendment is effective for annual reporting periods beginning on or after January 1, 2022 with earlier adoption permitted. The Company has concluded that there is no impact of adopting these amendments on its consolidated financial statements.

**IMPACT OF NEW ACCOUNTING STANDARDS BUT NOT YET ADOPTED****Amendments to IAS 1**

In January 2020, the IASB issued Classification of Liabilities as Current or Non-current, which amends IAS 1. The narrow scope amendments affect only the presentation of liabilities in the statement of financial position and not the amount or timing of their recognition. The amendments clarify that the classification of liabilities as current or non-current should be based on rights that are in existence at the end of the reporting period and align the wording in all affected paragraphs to refer to the right to defer settlement by at least twelve months. That classification is unaffected by the likelihood that an entity will exercise its deferral right. The amendments are effective for annual reporting periods beginning on or after January 1, 2024 and are to be applied retrospectively. The Company is still assessing the impact of adopting these amendments on its financial statements.

**Amendments to IAS 8, Accounting Policies, Changes in Accounting Estimates and Errors (“IAS 8”)**

In February 2021, the IASB issued Definition of Accounting Estimates, which amends IAS 8. The amendment replaces the definition of a change in accounting estimates with a definition of accounting estimates. Under the new definition, accounting estimates are “monetary amounts in financial statements that are subject to measurement uncertainty”.

The amendment provides clarification to help entities to distinguish between accounting policies and accounting estimates. The amendments are effective for annual periods beginning on after January 1, 2023. The Company is still assessing the impact of adopting these amendments on its financial statements.

**IMPACT OF NEW ACCOUNTING STANDARDS BUT NOT YET ADOPTED (Continued)****Amendments to IAS 1 and IFRS Practice Statement 2**

In February 2021, the IASB issued Disclosure of Accounting Policies, which amends IAS 1 and IFRS Practice Statement 2. The amendments are intended to help preparers in deciding which accounting policies to disclose in their financial statements. The amendment to IAS 1 requires companies to disclose their material accounting policy information rather than significant accounting policies. The amendment also clarifies that not all accounting policy information that relates to material transactions, other events or conditions is material to the financial statements. The amendment to IFRS Practice Statement 2 adds guidance and examples to the materiality practice statement, which explains how to apply the materiality process to identify material accounting policy information. The amendments are effective for annual periods beginning on or after January 1, 2023 and are to be applied prospectively. The Company is still assessing the impact of adopting these amendments on its financial statements.

**Amendments to IAS 12 – Income Taxes (“IAS 12”)**

Amendments to IAS 12 were issued in May 2021, IASB issued Deferred Tax related to Assets and Liabilities arising from a Single Transaction, which amends IAS 12. The amendment narrows the scope of the initial recognition exemption so that it does not apply to transactions that give rise to equal and offset temporary differences. As a result, companies will need to recognize a deferred tax asset and deferred tax liability for temporary differences arising on initial recognition of transactions such as leases and decommissioning obligations. The amendments are effective for annual periods beginning on or after January 1, 2023 and are to be applied retrospectively. The Company is still assessing the impact of adopting these amendments on its financial statements.