



# Infectious Disease Testing Specialists



Corporate Presentation

# Forward-Looking Statements

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- This presentation contains forward-looking statements about trends and objectives.
- Risks and uncertainties related to such statements could cause actual outcomes to differ materially.
- Such risks include, among others, those related to operations, customers or markets, growth drivers, products or technologies, product pricing or costs, development projects, financial results, regulatory matters, and access to capital.
- Forward-looking statements represent Microbix's current judgement, and it disclaims any obligation to update them.

## + Our Company Today



Develops, makes, and sells biological products for human health, with over 100 skilled employees and sales approaching C\$2.0M per month.



Leading provider of Dx test Quality Assessment Products (QAPs™). Selling to lab accreditation agencies, key Dx OEM test-makers, & clinical labs. Sales now >C\$ 1M/Q & growing – directly and via 9 distributors.



Viral Transport Medium (DxTM™) to support molecular diagnostic testing. Sold C\$ 4.5M in f2021, orders thus far for ~ C\$ 5.0M in f2022. Now further scaling and automating production.



International leader in supplying native “antigens”, as a critical part of medically important infectious disease tests. This segment averaged ~ C\$ 1M/month in sales pre-pandemic, but is down ~1/3 from that level. Starting to rebound to post-pandemic at improving margins.



Primed for continuing double-digit percentage sales growth, increased product development, gross margin expansion, growing net earnings, and share price appreciation.

# Microbix Senior Management

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## **Cameron L. Groome**

CEO, President, and Director

- Has served on the MBX BoD and AC since 2012, and was appointed CEO in 2017.
- 30+ years' experience in senior life sciences and finance roles.
- Successful leader, executive, director, and advisor for public and private companies.

## **Phil Casselli**

Senior. V.P. Business Devel.,  
Sales, and Marketing

- Manages MBX's relationship with over 100 makers of infectious disease diagnostics across multiple regions.
- He holds a Bachelor of Applied Science in Chemical Engineering and has more than 30 years' experience in the biotech and pharmaceutical industries.

## **Jim Currie, CPA**

Chief Financial Officer

- Joined MBX as CFO in 2016 after several CFO roles and a VP of Finance role at MDS SCIEX, a global leader in life science and analytical technologies.
- Jim holds a Bachelor of Commerce and holds a CPA and a CMA.

## **Mark Luscher, Ph.D.**

Senior Vice President,  
Scientific Affairs

- Responsible for scientific programs, he is a specialist in cell biology, immunovirology, and cytometry.
- He is an inventor on numerous patents and patent applications and oversees scientific and technological programs and initiatives related to MBX's products.

## **Ken Hughes, Ph.D.**

Chief Operating Officer

- Executive and biomedical scientist with 25 years of experience in biotech and pharma.
- Previously was CEO of iTP Biomedica, VP, Sci. & Reg. Affairs at Innovative Medicines Canada and Co-founder and Advisory Board member of PlantForm Corporation.

**>20 Other Skilled  
Directors & Managers,  
and total of >100 Staff**

- Including but not limited to: **Amer Alagic** – Director of R&D, **Steve Hagerman** – Senior Director of Operations, **Dennis Haikalis** – Director of IT, **Bo Hollas** – Director, QA & Compliance, **Damian Klimaszewski** – Director of Manufacturing, **Lucy Lin** – Director of QC, **Anu Rebbapragada** – Director and Senior Advisor, Diagnostics Strategy and Services, and **Pavel Zhelev** – Director of QAPs.

# Microbix Board of Directors



**Martin Marino**  
Board Chairman

- Mr. Marino has more than 30 years' experience in corporate legal roles and executive management functions, with emphasis on transaction-based corporate development.
- He also has considerable experience in conflict resolution and litigation management.

**Dr. Peter M. Blecher**  
Director

- Dr. Blecher worked as an Emergency Room physician for ~25 years.
- He is a Medical Director of NeuPath Centres for Pain & Spine, and is a credentialed pain practitioner with both the American and Canadian Academies of Pain Medicine.
- Dr. Blecher is a co-founder and CMO of both Entourage Health and FH Health.

**Mark A. Cochran, Ph.D.**  
HRGC Chair

- Dr. Cochran was Executive Director of Johns Hopkins Medicine.
- His experience spans all levels of the drug discovery and development value chain, including operational and executive roles in the healthcare, venture capital, pharmaceutical, and biotech industries.

**Vaughn C. Embro-Pantalony**  
AC Chair

- Mr. Embro-Pantalony has held multiple executive roles in life sciences, with responsibility for licensing, business development, and strategic planning.
- His experience includes executive roles with Bayer, Novopharm and Terra International. He is a Chartered Director and Audit Committee Certified through McMaster University.

**Joe Renner**  
Director

- Mr. Renner, Chairman of Zydus Pharmaceuticals, Pennington, New Jersey, has more than 30 years' experience in the pharmaceutical industry.
- He has enjoyed a successful career leading businesses with many drug approvals in the United States.

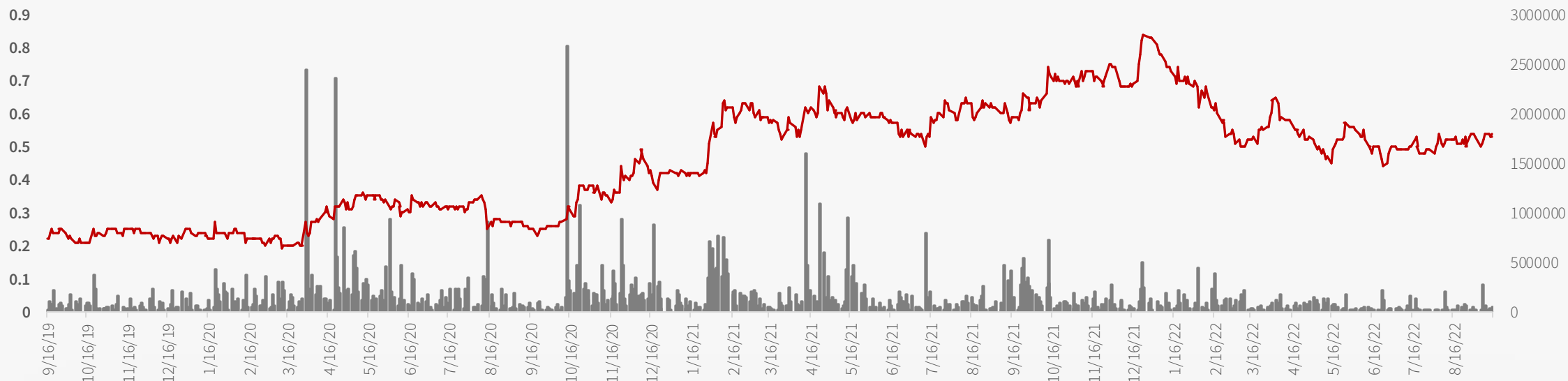
**Jennifer Stewart**  
Director

- Ms. Stewart is founder, President, and CEO of Syntax Strategic, a leading firm in the sector of advocacy and communication for the public and private sectors in Canada.
- She is a renowned expert in this field, and is actively involved with media, business, and the community.

**Cameron Groome**  
Director

- Mr. Groome is President and CEO of Microbix.

# Microbix Capital Structure



**TSX Listed, Symbol: MBX • OTC QX Listed, Symbol: MBXBF**

Current Price	<b>\$0.54 (Sept 16)</b>
Shares Outstanding (Basic)	<b>137.3M**</b>
(Fully Diluted)	<b>182.1M**</b>
52 Week High	<b>\$0.87</b>
52 Week Low	<b>\$0.42</b>

Market Capitalization	<b>\$72.76M</b>
Avg. Daily Volume	<b>~131K (3 mos.)</b>
Cash and Line of Credit	<b>~\$16.2M**</b>
Longer Term Debt	<b>\$3.9M BDC &amp; Govt.** \$4.0M debentures*</b>

\*Convertible at \$0.23

\*\* As of June 30, 2022

# Microbix's Three Sales-Driven Business Divisions @ ~C\$ 20M Ttl



- + Current platform and capacity enables accelerating sales growth by a well-established multi-product life sciences business

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## QAPs for EQA/PT agencies, Dx OEMs, and Clinical Laboratories

- A leading supplier to the agencies that test and accredit clinical laboratories.
- Expanding markets via supporting test-developers and clinical laboratories.
- Adding new and innovative QAPs with large sales potential at good margins.
- Strategic Agreement with Copan Italia S.p.A., the global leader in specimen-collection devices.

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## DxTM Medium for Specimen Collection

- Ontario Together Fund grant of \$1.45M to equip MBX for supplying viral testing needs.
- 1st Ontario order for C\$ 4.25M delivered in F2021.
- 2nd Ontario order for C\$ 4.7M delivered in F2022.
- Started at 50K vials/week, now at 100K/week, readying for automation to 100K/day.
- Squarely within core competencies and medical devices accreditations.

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3

## Global leader in native antigen production

- Critical supplier to >100 global makers of tests for infectious diseases.
- >95% export sales, to clients in the Americas, Europe and Asia.
- Poised to benefit from post-pandemic return to broader infectious disease testing and tech-driven margin expansion.

# Microbix's Manufacturing Capabilities

## + Our Three Facilities Provide Capacity & Flexibility

### QAPs @ 235 Watline



- 10,000 ft<sup>2</sup>
- Semi-automated and automated QAPs production
- Designed to support Liquid and Swab-based QAPs
- New R&D/QC lab for new QAPs product development and testing

### Antigens @ 265 Watline



- 14,000 ft<sup>2</sup>
- Core antigen production systems and testing laboratory
- Bioreactor production suite
- Planning underway to implement a Biosafety Containment Level 3 (CL-3) production suite

### DxTM @ 275 Watline



- 10,000 ft<sup>2</sup>
- Initial capacity at 100,000 DxTM units/wk
- 400,000 units/wk upon full automation in 2022
- Production capabilities for a new menu of Viral Transport Media



# Microbix's Three Sales-Driven Business Divisions

+ Some of our many customers or collaborators

01

QAPs™

02

Dx™

03

Native Antigens



# 01. Quality Assessment Products

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## + Helping Ensure Test Accuracy

### → The QAPs™ Opportunity

Microbix identified an important role for its expertise beyond antigens for immunoassays:  
For **Quality Assessment Products (QAPs™)**.

#### **Proper Quality Control (QC) of infectious disease tests is critical to health outcomes.**

- Optimal QC requires emulation of real patient samples to check and ensure correct results.
- This requirement applies to antigen, immunoassay, and nucleic acid tests.
- U.S. and European labs are recommended to use 3<sup>rd</sup> party Quality Controls when available

#### **Microbix has the rare expertise needed to make a broad range of such products.**

- **Growing** many bacterial and viral organisms safely, economically, and at scale
- **Inactivating** organisms in order to have intact surface antigens AND nucleic acids
- **Augmenting** by using leading-edge biology tools where traditional methods fall short
- **Formulating** to concentrations representative of clinical samples
- **Formatting** as either liquid samples or dried onto Copan® FLOQSwabs®
- **Stabilizing** samples for optimal commercial shelf-life and temperature stability
- **Validating** product performance through enhanced quality systems (i.e., ISO 13485, MDEL)



**Microbix has therefore developed a line of clinically-important QAPs, an opportunity well suited to its capabilities and market *bona fides* and a large, low-risk market opportunity.**

# 01. Quality Assessment Products

## + The QAPs™ Product Line & Our Objectives

Microbix is continuing to expand its line of QAPs.

Includes both liquid vial and FLOQSwab® formats.

Already comprises >80 discrete SKUs.

### QAPs have competitive advantages



**1. Performance** – QAPs are whole-genome and whole-workflow to prevent systemic errors



**2. Formats** – Having vials & swabs enable support of both lab-based & point-of-care testing



**3. Stability** – Proven stability at room temp (swabs) or 2-8°C (vials) for up to two years



**4. Multiplexing** – Multiple pathogens loaded onto one QAP to support next generation test-platforms



**5. Resistance/Variants** – Supporting tests for viral variants and tests for antibiotic resistance



**6. Intellectual Property** – Defended by issued or pending patents of both Microbix and Copan



# 01. Quality Assessment Products

## + Our QAPs Segments and their Markets



**C\$ 10s of millions in sales targeted –  
 >US\$ 30/unit MRSP, for labs**  
 Microbix branded – REDx™ Controls  
 or REDx™FLOQ®

- Licensed/ registered for sale in Canada, EU and U.S. (vial and/or swab formats)
- Sold directly to clinical lab chains or via distributors (via 9 Cos., into 30+ countries)
- Growing sales of leading respiratory, GI, HPV, STI, and other infectious disease controls
- Targeting multiple lab and distributor accounts of >\$100K/year
- Gross margin ≥70% for these QAPs across multiple product formats



**C\$ 10s of millions in sales targeted –  
 US\$ 15-30/unit, for labs & Dx OEMs**  
 Usually Branded – PROCEEDx™ or  
 PROCEEDx™FLOQ®

- Often sold directly to Dx OEMs for inclusion with their test kit consumables
- Dx OEM validation/specification helps to secure clinical laboratory customers



**C\$ 10s of Millions in sales targeted –  
 US\$ 200-500 per kit of PROCEEDx™  
 positives and negatives**  
 A popular format for onboarding  
 new Dx instrument installations

- Often sold directly to Dx OEMs that want a “white glove” new customer experience
- Used to support IQ/OQ/PQ of newly purchased instruments and to train technicians



**~ C\$ 3.0 million in annual sales –  
 US\$ 10-20/unit, all direct**  
 Usually unbranded (White Label)

- Sold directly to a limited pool of lab accreditation organizations
- A tripling of sales from historic base of ~\$1.0M/year

# 01. Quality Assessment Products

+ ~\$5M/Year was just the start for QAPs™

## PROCEED™

**PROCEEDx™** – For qualifying new instruments and training technicians

To Dx OEMs, Labs, & Distributors  
Sales began in f2018 and exceeded \$1.0M f2021.



## RED controls™

**REDx Controls™** – To support the formal QC and QA programs of clinical laboratories

To Clinical Labs & Distributors  
Sales began in f2020 and neared \$1.0M for f2021.



- QAPs are providing sales growth and were >25% of f2021 revenues of \$18.6M.
- Into North America, Europe, and ROW markets at favourable gross margins.

PROCEEDx™ and REDx Controls™ are being:  
(a) labelled as Microbix products;  
(b) sold in greater volumes at higher prices.

## 02. VTM for Ontario & others

### + DxTM™ Viral Transport Medium (VTM)

#### → Why this Project?

Expertise in large-scale biological medium production enables Microbix to provide Ontario with a secure local supply of high-quality VTM.

#### → What is DxTM?

DxTM is the vial of liquid into which swabs of patient test samples are placed. DxTM preserves the stability of any virus that is present until it can be tested by the clinical lab.

#### Specific Microbix Activities:

- + **Identified Need of Ontario**  
Outreach to MEDJCT  
*Security of supply being key*
- + **Applied to OTF Program**  
Project Selected by Ontario  
*Supported due diligence by Ontario*
- + **Negotiation of Terms**  
Mutually-satisfactory Contracting  
*Announcement on October 13, 2020*
- + **Applied to OTF Program**  
Project Selected by Ontario  
*Supported due diligence by Ontario*
- + **Negotiation of Terms**  
Mutually-satisfactory Contracting  
*Announcement on October 13, 2020*
- + **Project Implementation**  
Validation & Manufacturing  
*In new spaces at 2<sup>nd</sup> and 3<sup>rd</sup> sites*



**Ontario procurement has no other licensed domestic maker of VTM.**

## 02. VTM for Ontario & others

### + Viral Transport Medium (VTM)

#### → Sales Potential for VTM

Every PCR test conducted requires a vial of VTM, all of which was imported. VTM needs expected to continue, driven by both respiratory viruses and the ongoing need to test for many other infectious organisms.

- Microbix can now produce at 100,000 vials/week and is now working on full automation to scale 5-10x.
- 1<sup>st</sup> order from Ontario was for \$4.25 million and was delivered in Q3/4 F2021.

- Normal-time pricing for VTM is in the range of CDN \$3-5 per vial.
- 2<sup>nd</sup> order from Ontario for \$4.7 million was delivered in F2022.



→ **Gross margins from VTM production are favourable and other clients are now being pursued and secured. VTM therefore represents a large and sustainable value-creation opportunity.**

## 03. Antigens

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### + Sales of Antigens for Immunoassays

#### Immunoassays

Diagnostic tests that measure an antigen-antibody reaction, and for infectious diseases, can:

- a) suggest the presence of a pathogen,
- b) establish exposure to a pathogen, or
- c) assess the level of immunity to a pathogen.

#### Antigens

Any foreign substance that evokes an antibody response and binds to an antibody. Antigens are an essential and core component of immunoassays.

#### Uses of Immunoassays

To diagnose exposure or immunity to pathogens that can affect health in adults, children, neonates, or life in utero. For such vital uses, *immunoassays cannot be replaced by nucleic acid-based tests.*

#### Microbix's Role

Growing, purifying, and inactivating real bacteria and viruses for use as antigens for more than 100 leading international diagnostics companies. Microbix provides antigens on a large scale for major international diagnostics manufacturers, most often as a critical sole-source supplier.



## 03. Antigens

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### + Growth Outlook for Antigens Business

Antigens comprise <50% of total sales, changed from 90% historically due to growth of other segments. In the near term, Antigen sales growth is being held back by reduced testing for non pandemic-related diseases. The Company anticipates its Antigens line will begin to rebound to pre-pandemic levels across fiscal 2022/23.



**<50%**  
**of sales**

- ✓ As healthcare re-stabilizes, Antigen sales may benefit from greater global attention to respiratory and infectious disease testing as a result of the COVID-19 pandemic.
- ✓ In the more mature markets of the USA and Europe, growth can be derived from expanding relationships with established diagnostics clients.
- ✓ Further growth likely from adoption of public health-oriented immunoassays in new regions, such as Asia-Pacific nations.
- ✓ Microbix antigens are already being incorporated into dozens of tests seeking approval for use in China, for a large emerging-market opportunity.
- ✓ Improvements to processes, including the use of bioreactor technologies for viral antigen production, are now enhancing gross margins for this segment.

# 04. Financials



## + Fiscal 2021 Results

**COVID-19 changed sales for antigens and QAPs, while creating its own opportunities.**

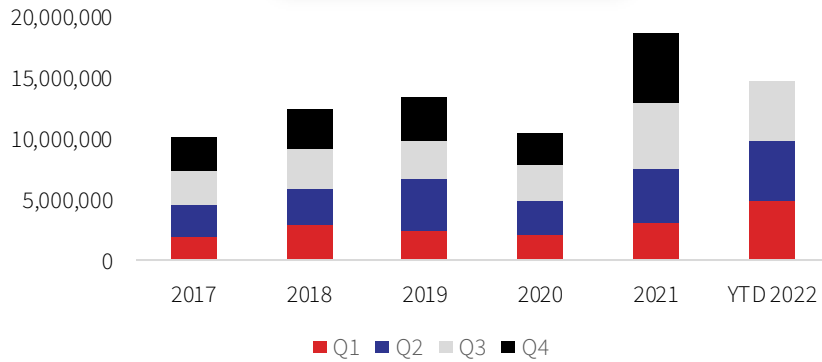
- Microbix has created & launched leading products with its new QAPs & VTM.
- In fiscal 2021, QAPs sales growth overcame the slowdown in antigen sales, with record sales of \$18.6M & QAPs sales +208% Y/Y
- Microbix’s newest product line, Dx™ viral transport medium, also contributed – with F2021 sales of \$4.5 million (F2022 YTD of \$5M).
- Sales of antigens and product royalties were slightly higher than fiscal 2020 but with improved margins.
- Overall, sales achieved a favourable gross margin of 59% for fiscal 2021, in comparison to 44% in fiscal 2020 and resulted in strong EBITDA and record operating and net income.



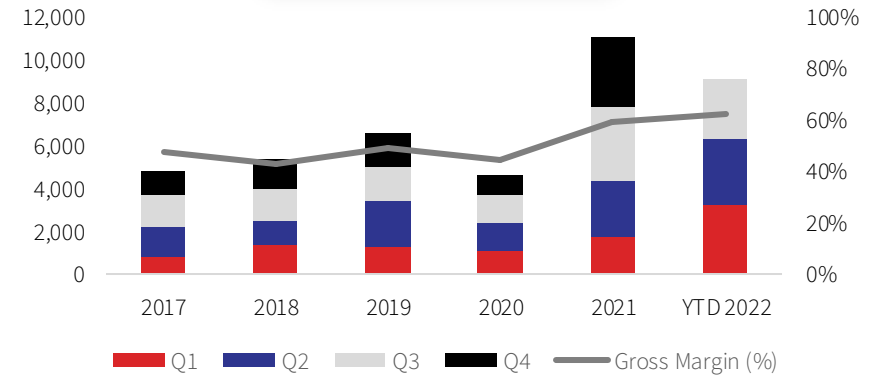
# 04. Financials

## + Financial Results – 2017 to 2022 YTD

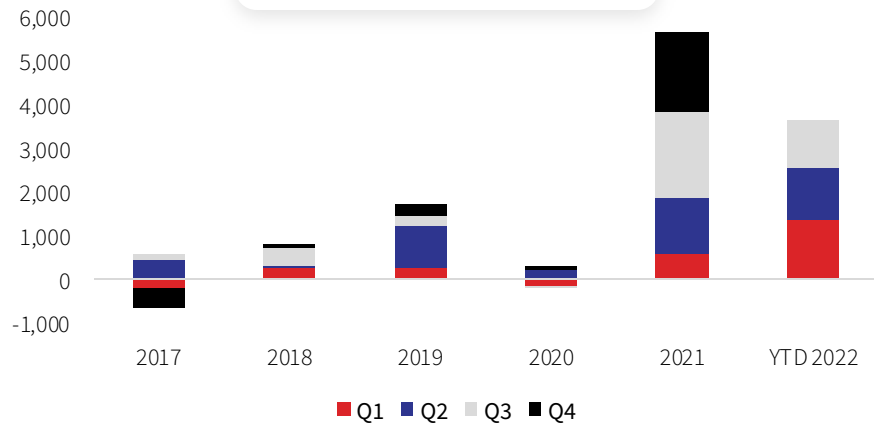
Revenue



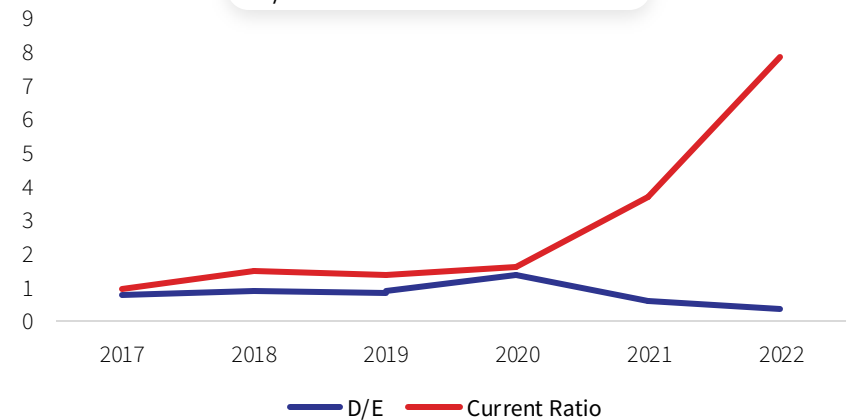
Gross Margin



EBITDA \$'000's



D/E & Current Ratio



## Financial Performance

## 04. Financials

### + Comparables & Valuation

IA Capital Markets has a BUY rating and a 12-month target price of C\$ 1.25.  
Bloom Burton & Co also has a BUY rating and a 12-month target price of C\$1.00.

Company	Est. Source	Ticker	Currency	Price	Market Cap (M)	EV (M)	EV/Revenue			EV/EBITDA		
							2021A	2022E	2023E	2021A	2022E	2023E
Meridian Bioscience Inc.	Con	NASDAQ: VIVO	USD	\$32.06	\$1,402.6	\$1,350.9	4.2	4.0	4.4	na	na	na
Thermo Fisher Scientific	Con	NYSE: TMO	USD	\$539.67	\$211,436.8	\$239,792.8	6.1	5.5	5.4	18.5	20.2	19.3
Bio-Rad Laboratories Inc	Con	NYSE: BIO	USD	\$445.50	\$13,232.8	\$12,662.0	4.3	4.4	4.2	18.7	19.5	17.8
Average							4.9	4.7	4.7	18.6	19.8	18.5
Microbix Biosystems Inc.	BB	TSX: MBX	CAD	\$0.53	\$72.8	\$64.4	3.5	3.2	2.0	13.3	14.5	6.2

\*Source: Fact Set, Bloom Burton Initiation Report (Sep 19, 2022)

\* Meridian EV based on proposed acquisition price by SD Biosensor announced on July 8, 2022 (expected to close in 4Q-2022)

Company	Ticker	Close	Mkt Cap (\$M)	Debt+Pref (\$M)	Ent. Value (\$M)	EBITDA (\$M)			Debt/EBITDA 22	EV/EBITDA			Revenue			EV/Revenue		
						2021A	2022E	2023E		2021A	2022E	2023E	2021A	2022E	2023E	2021A	2022E	2023E
Bio Rad Laboratories Inc	BIO-N	549.12	16,150	(765)	15,385	734.4	700.9	767.0	-1.1x	20.9x	21.9x	20.1x	2,891	2,841	3,035	5.3x	5.4x	5.1x
Danaher Corp	DHR-N	291.18	211,820	17,751	229,571	10,151.2	10,600.9	10,987.8	1.7x	22.6x	21.7x	20.9x	29,129	30,638	31,670	7.9x	7.5x	7.2x
Thermo Fisher Scientific Inc	TMO-N	592.54	232,080	28,546	260,626	12,290.5	11,906.5	12,564.1	2.4x	21.2x	21.9x	20.7x	37,652	43,251	44,636	6.9x	6.0x	5.8x
Meridian Bioscience Inc	VIVO-O	32.55	1,430	(56)	1,374	n/a	n/a	n/a	n/a	n/a	n/a	n/a	310	334	304	4.4x	4.1x	4.5x
Sartorius AG	SATG-DE	406.00	31,790	2,446	34,236	1,080.8	1,439.4	1,596.5	1.7x	31.7x	23.8x	21.4x	3,449	4,192	4,660	9.9x	8.2x	7.3x
Agilent Technologies Inc	A-N	131.95	39,410	1,703	41,113	1,709.0	1,931.5	2,074.1	0.9x	24.1x	21.3x	19.8x	6,318	6,693	7,144	6.5x	6.1x	5.8x
DiaSorin SpA	DIAS-MI	140.30	7,850	1,035	8,885	496.0	488.4	486.7	2.1x	17.9x	18.2x	18.3x	1,218	1,315	1,332	7.3x	6.8x	6.7x
<b>Totals / Average</b>			<b>540,500</b>	<b>50,700</b>	<b>591,200</b>	<b>26,460</b>	<b>27,070</b>	<b>28,480</b>	<b>1.3x</b>	<b>22.3x</b>	<b>21.8x</b>	<b>20.8x</b>	<b>80,970</b>	<b>89,270</b>	<b>92,780</b>	<b>7.3x</b>	<b>6.6x</b>	<b>6.4x</b>
Microbix Biosystems Inc (IA)	MBX-T	\$ 0.52	70	-6	64	5.1	4.7	6.2	-1.2x	12.5x	13.5x	10.3x	18.6	20.2	24.5	3.5x	3.2x	2.6x

\*Source: Industrial Alliance, Aug 12, 2022

## 04. Financials

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### + Investment Highlights & Catalysts



Strong Annual Sales Growth



Record year in F2021, Record YTD F2022



Generating positive Cash Flow from Operations



Improving Gross Margins across all product lines



Well-capitalized for facility improvements, automation, production expansion, and support systems upgrades over next 12-18 months



Growing QAPs offerings (to >80 SKUs), more registered/launched on an ongoing basis and sold direct and into an int'l distribution network



Large opportunities as VTM supplier for Ontario and other regions



Antigen sales recovery prospects at improved gross margins

# THANK YOU



Corporate Presentation

**Cameron Groome**

CEO, President, and Director  
cameron.groome@microbix.com



# 05. Kinlytic® Urokinase



## + Partnering Opportunity

### → Kinlytic® Urokinase

Microbix’s expertise in biologicals led to its securing rights to this clot-buster drug, which is approved in the USA and Canada.

- For sales to resume, production of the drug must be restarted and the new product shown to be equivalent to past batches.
- Microbix has validated a path back to market with the U.S. FDA, obtained detailed 3<sup>rd</sup> party quotations, and is now moving to secure development partners to fund the project.

### Specific Kinlytic Activities:

- + **Refined Project Scope**  
Catheter Clearance Indication  
*U.S. market as a value driver*
- + **Established Precise Costs**  
Quotes from qualified vendors  
*Remove risk for partners*
- + **Engaged Licensing Agent**  
Well-respected NYC firm  
*More effective project outreach*
- + **Prepared for Due Diligence**  
Electronic Data Room Created  
*~1,300 pp. updated and organized*



**A partner to return Kinlytic to the U.S. market is now being sought. Microbix’s goal is to secure a material upfront fee and retain a meaningful proportion of economics.**

## 05. Kinlytic® Urokinase

### + Partnering Opportunity

#### → Kinlytic® Urokinase

Urokinase is a human protein that dissolves blood clots and has been used to treat multiple clot-related disorders in millions of patients.



- + The U.S. return of Kinlytic starts with its FDA-approved use for catheter clearance.
- + Clearing blood clots from I.V. catheters is now a **>US\$350 million monopoly** in the USA, held by tPA and growing by about 10% annually.
- + **Microbix aims for sales in excess of US\$200 million by breaking that monopoly.**
- + **Refiling is achievable in 2.5 years with investment of less than US\$20 million.**



Kinlytic is therefore believed to represent a large value-creation opportunity. Qualified parties are engaged in confidential partnering discussions.