

# MICROBIX

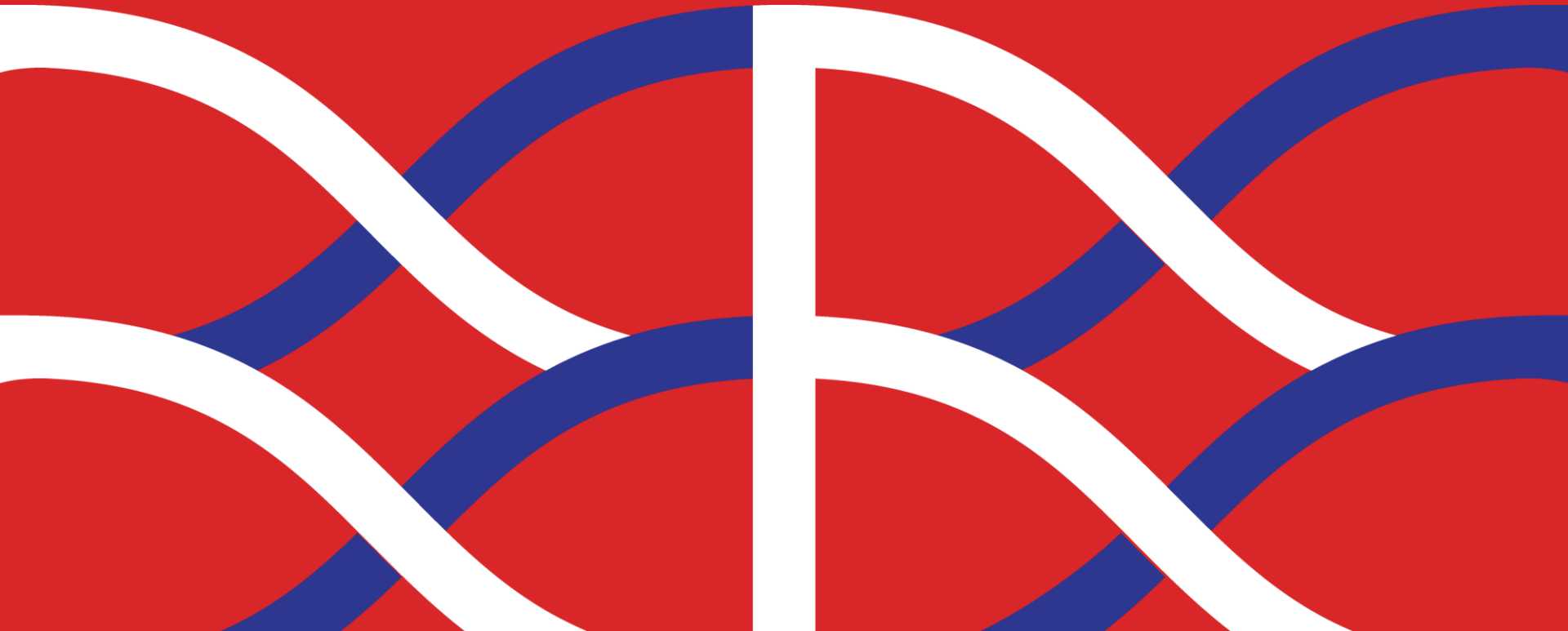
BIOSYSTEMS INC.

Corporate Presentation

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Winter 2021

## Infectious Disease Specialists



# 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 judgment and it disclaims any obligation to update them.

# MICROBIX BIOSYSTEMS INC.

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## Our Company Today



Develops, makes, and sells biological products or technologies to customers in North America, Europe, Asia, and other markets.



Leading provider of Dx test Quality Assessment Products (QAPs™).  
Selling to lab accreditation agencies, key Dx OEM test-makers, & clinical labs.  
Sales now >\$1M/Q (4x historic rate) & growing – directly and via 9 distributors.



Viral Transport Medium (DxTM™) to support of COVID-19 testing. Grant from Ontario to scale-up production. Started mfg. Q1 fiscal 2021 and received 1<sup>st</sup> order from Ontario for \$4.25 million in Apr., 2021 and 2<sup>nd</sup> order for \$4.7M in Dec., 2021. Now working to automate production.



Leads in supplying native “antigens”, as a critical part of medically important infectious disease tests. This segment averaged \$1M/month in sales pre-pandemic. Potential for growth to resume post-pandemic.



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

# 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.

**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.

**Ken Hughes, Ph.D.**  
COO

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.

**Phil Casselli**  
Senior Vice President  
Business Development,  
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.

**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.

**Kevin Cassidy**  
Vice President  
Biopharmaceuticals

Responsible for MBX's pathogens and toxins license from Public Health Agency of Canada, with over 30 years' experience in the biotech industry. Among other responsibilities, is also the lead executive directing the Kinlytic® urokinase biologic clot-buster program.

# Board of Directors

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**Martin Marino**  
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 is the founder of several biotech ventures, including one purchased by MBX. He has practiced emergency medicine at Lakeridge Health, pain medicine at CPM Centers for Pain Management, and is Medical Director of Starseed Medicinal, Inc.

**Mark A. Cochran, Ph.D.**  
Director

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**  
Director

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.

**Anthony J. Giovinazzo**  
Director

Mr. Giovinazzo has over 40 years of life sciences experience and is an internationally-recognized expert in life sciences IP, drug development, and product commercialization. He was previously the CEO of Cynapsus Therapeutics and currently serves as Executive chairman of Sublimity Therapeutics, as a director of Pond Technologies Holdings Inc. (TSXV: POND), and as a director of Titan Medical Inc. (TSX: TMD, NASDAQ: TMDI).

**Joe Renner**  
Director

Mr. Renner, Chairman of Zydus Pharmaceuticals, Pennington, New Jersey, has more than 25 years' experience in the pharmaceutical industry. He has enjoyed a successful career leading businesses with many drug approvals in the United States.

**Cameron Groome**  
Director

Mr. Groome is President and CEO of Microbix.

# Capital Structure



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

Current Price	<b>\$0.83</b> (Dec 31)	Market Capitalization	<b>\$108.8M</b>
Shares Outstanding (Basic)	<b>131.1M**</b>	Avg. Daily Volume	<b>~175K (3 mos.)</b>
(Fully Diluted)	<b>179.6M**</b>	Cash and Line of Credit	<b>~\$12.0M</b>
52 Week High	<b>\$0.86</b>	Longer Term Debt	<b>\$2.5M BDC &amp; Govt. \$5.0M debentures*</b>
52 Week Low	<b>\$0.40</b>		

\*\$4.5M convertible at \$0.23

\*\* As of November 30, 2021

# Microbix's Three Sales-Driven Business Divisions

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

## 1 Global leader in EQA/PT controls, OEM and Lab support through Quality Assessment Products (QAPs)

- A leading supplier to 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.

## 2 Viral Transport Media for Pandemic Testing

- Ontario Together Fund grant of \$1.45M to equip for supplying VTM to meet COVID-19 testing needs.
- 1<sup>st</sup> order from Ontario for \$4.25 million for delivery by Sept 30, 2021.
- 2<sup>nd</sup> order from Ontario for \$4.7 million for delivery between December, 2021 and June, 2022.
- Production started at 50,000 vials/week and now moving to be automated.
- Squarely within core competencies and medical devices accreditations.

## 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 increasing infectious disease testing and tech-driven margin expansion.

### → 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 both 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**.



## Our QAPs Segments and their Markets

### PTD™

**~\$2.0 million in annual sales – US\$10-US\$20/unit, all direct**  
Usually unbranded (White Label)

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

### PROCEED™

**\$10s of millions in sales targeted – US\$15-US\$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

### RED controls™

**\$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 (9 Cos., 30+ countries)
- Growing sales of leading COVID controls, other respiratory IDs, and for STIs
- Targeting multiple lab and distributor accounts of >\$100K/year
- Gross margin  $\geq 70\%$  for these QAPs across multiple product formats

# \$2M/Year in PTDX just the start for QAPs™

1 Quality Assessment Products

Microbix is now opening new markets, providing its QAPs to key participants across the diagnostics industry.

## PROCEED™

PROCEEDx™ – For qualifying new instruments and training technicians

To Dx OEMs, Labs, & Distributors

*Sales began in f2018, have 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, nearing \$1.0M for f2021.*

PROCEEDx™ and REDx Controls™ are being:

- (a) labelled as Microbix products;
- (b) sold in greater volumes at higher prices.



- 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.

### → Why this Project?

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

### → What is VTM?

VTM is the vial of liquid into which swabs of patient test samples are placed. VTM 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*

##### 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.**

### → 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 new COVID variants and to support safe resumption of businesses, schools, entertainment, and travel.

- **Microbix started production at 50,000 vials/week and is now working on full automation.**
- **Normal-time pricing for VTM is in the range of CDN \$4-6 per vial.**
- **Initial order from Ontario was for \$4.25 million and was delivered in Q3/4 F2021.**
- **2<sup>nd</sup> order from Ontario was for \$4.7 million for delivery between December, 2021 and June, 2022**

Gross margins from VTM production are favorable. VTM therefore represents a large value-creation opportunity.



### 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.**

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.



**<50%**  
of sales

- ✓ As healthcare re-stabilizes, Antigen sales may benefit from greater global attention to respiratory and infectious disease testing resulting from 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.



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

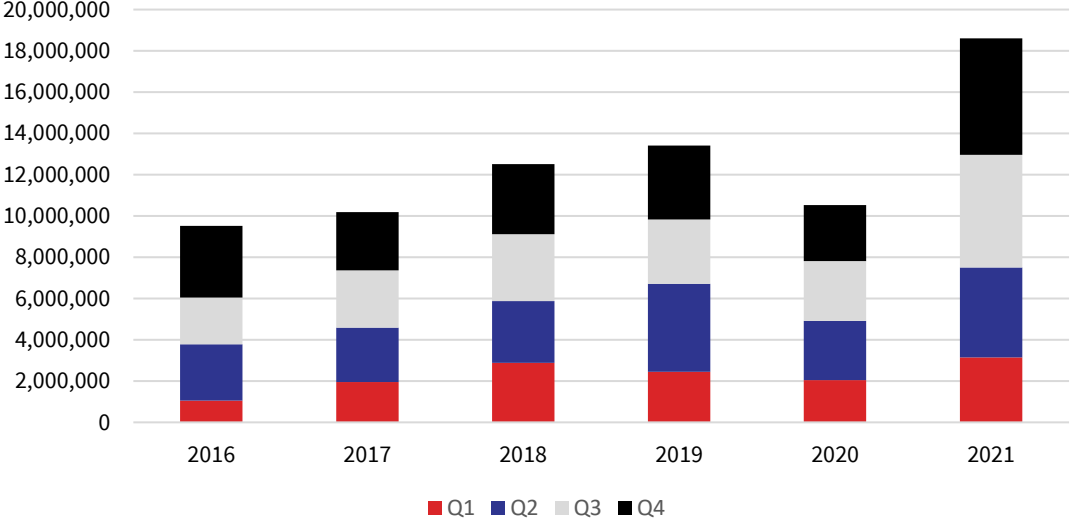
- Microbix created & launched leading COVID-19 products with its new QAPs & VTM.
- In YTD fiscal 2021, QAPs sales growth overcame the slowdown in antigen sales, with record sales of \$18.6M & QAPs sales +208% Y/Y
- Microbix's new product line, viral transport medium also contributed, with 2021 sales of \$4.5 million
- Sales of antigens and product royalties were slightly higher than 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.



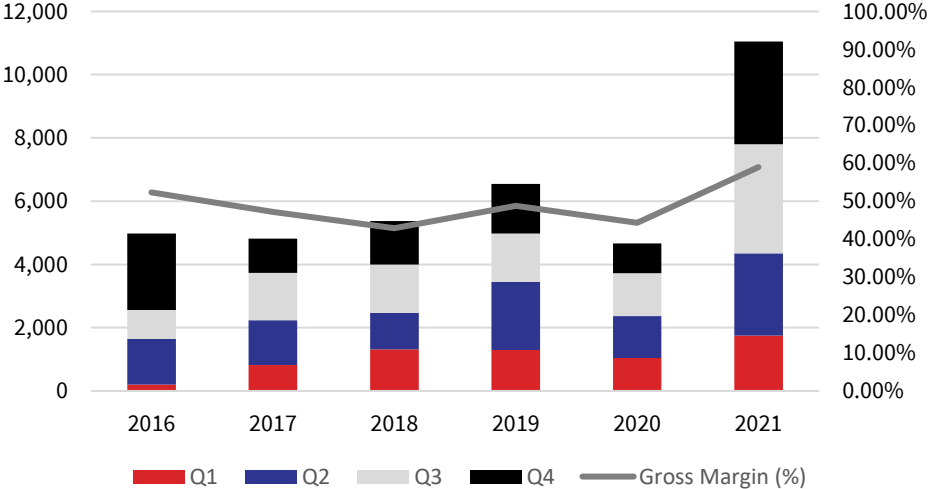
# Financial Performance



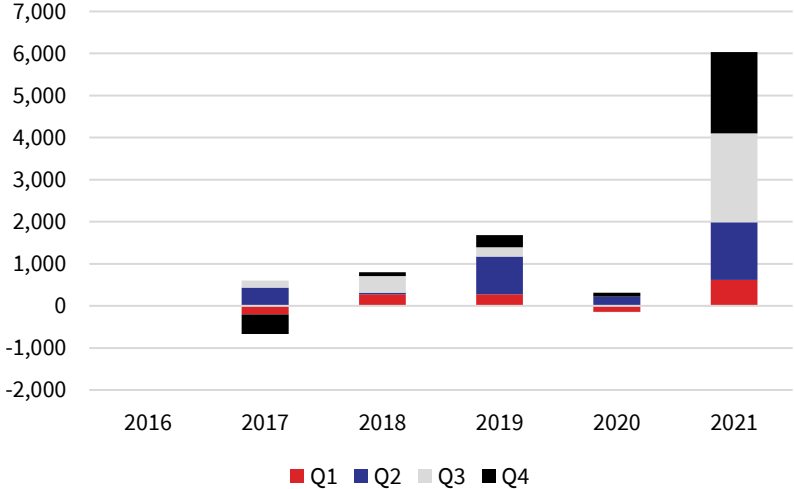
## Revenue



## Gross Margin



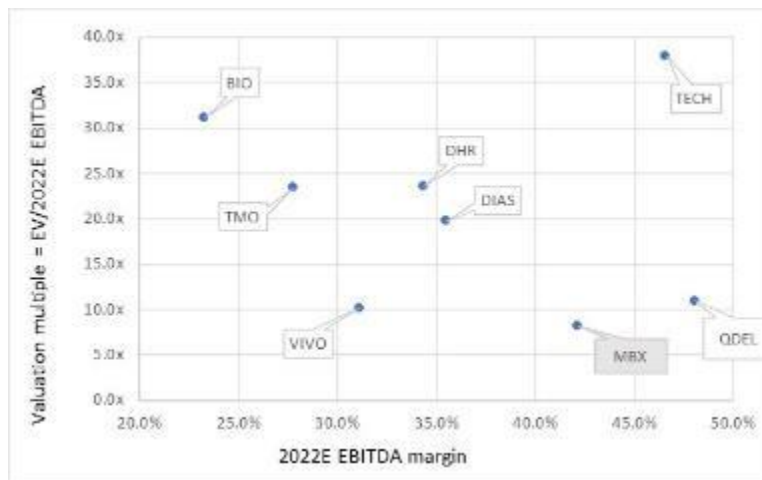
## EBITDA \$000's





# Comparables

	Symbol	Price	Mkt Cap	EV	EBITDA		Revenues		Rev	EV/EBITDA		EV/Revenues	
					2020A	2022E	2020A	2022E	Growth	2020A	2022E	2020A	2022E
Microbix Biosystems Inc	MBX.TO	0.83	102.8	101.2	0.2	123	10.5	29.3	178.2%	611.53x	8.20x	9.62x	3.46x
Bio Rad Laboratories Inc	BIO.N	735.42	22,000.3	20,675.6	537.4	664.2	2,545.6	2,858.1	12.3%	38.47x	31.13x	8.12x	7.23x
Bio Techno. Corp	TECH.O	487.79	19,167.8	19,240.6	233.5	508.3	981.0	1,091.0	17.2%	82.40x	37.86x	20.67x	17.64x
Dana Her Corp	DHR.N	315.76	225,634.8	249,958.8	6,581.0	10,589.7	22,284.0	30,826.1	38.3%	37.98x	23.60x	11.22x	8.11x
DiaSorin SpA	DIAS.MI	163.2	9,190.6	8,696.0	385.3	440.9	881.3	1,242.0	40.9%	22.57x	19.72x	9.87x	7.00x
Meridian Bioscience Inc	VIVO.O	20.69	900.3	910.5	110.6	89.8	317.9	288.8	-9.2%	8.23x	10.13x	2.86x	3.15x
Qidel Corp	QDEL.O	134.29	5,598.0	5,019.6	1,135.5	459.8	1,661.7	956.8	-42.4%	4.42x	10.92x	3.02x	5.25x
Thermo Fisher Scientific Inc	TMO.N	644.92	254,129.5	263,809.5	10,214.0	11,287.7	32,218.0	40,704.0	26.3%	25.83x	23.37x	8.19x	6.48x
<b>Totals/Average</b>							60,889.5	77,966.7	28.2%	31.42x	22.39x	9.14x	7.84x



\*Source: KRC Insights, January 4, 2021

# Investment Highlights & Catalysts

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- **Strong Annual Sales Growth**
- **Improving Gross Margins across all products**
- **Generating Cash Flow from operations**
- **Record year in F2021**
- **Well capitalized for facility improvements, automation and production expansion over next 12-18 months**
- **QAPs business line has dramatically expanded product offerings (>70 SKUs), new products being registered/launched on an ongoing basis and sold into a large and growing international distribution network**
- **Massive opportunity as VTM supplier for Ontario and other regions**
- **Antigen sales recovery prospects at improved gross margins**

**THANK YOU**

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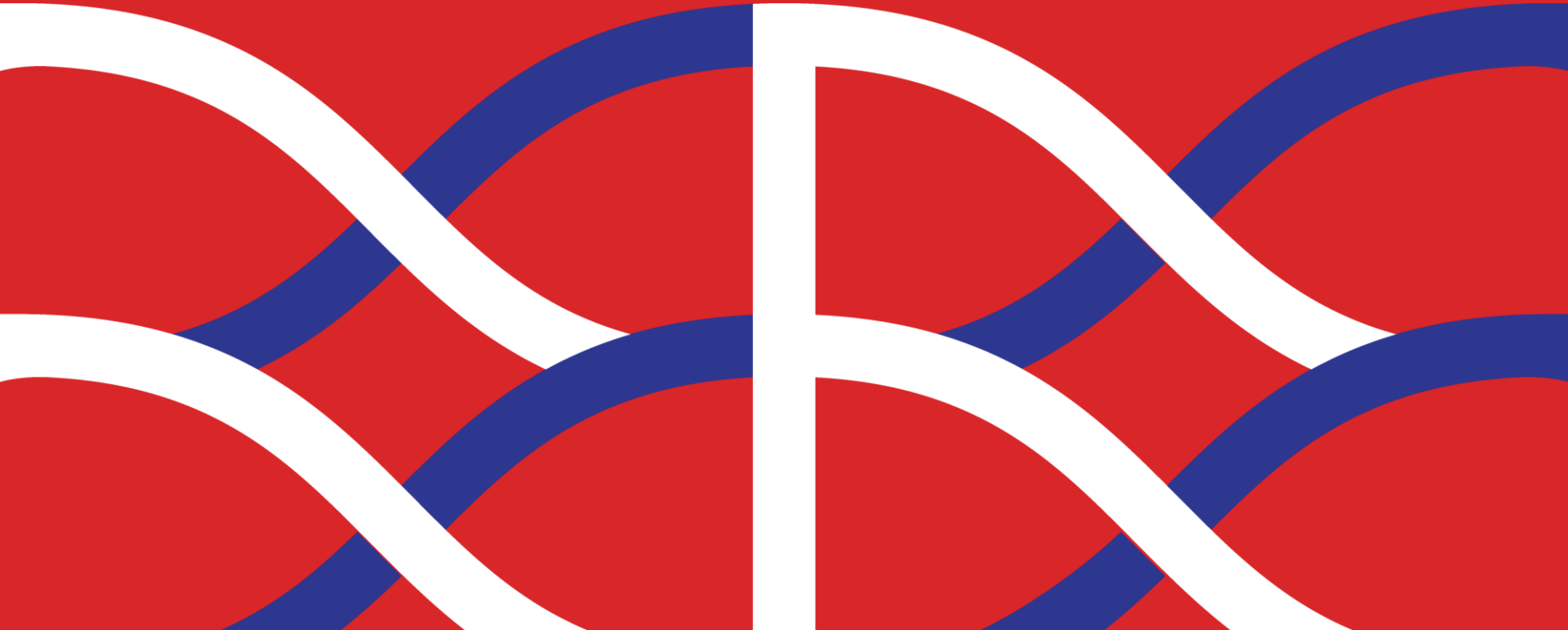
**Cameron Groome**

CEO, President, and Director

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**MICROBIX**

BIOSYSTEMS INC.



## → 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.

### → 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.**