Microbix Biosystems Inc.

16 February 2021

MBX-T: $0.62, MBXBF-OTC: $0.50

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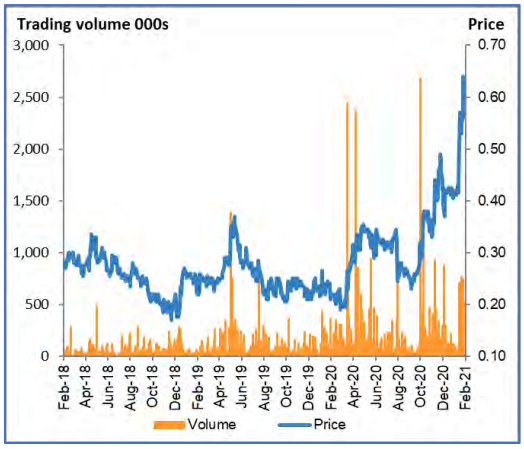
Price	$0.62	Market Cap		$67,857
Target Price	$2.00	Debt		$4,301
Projected Return	223%	Convert. Debt		$4,745
52 Week Range	0.66/0.17	Cash		$417
Basic Shares (000's)	109,447	EV ($000s)		$76,486
FD Shares (000's)*	159,281			
Insiders	12.0%			
Y/E September	**2019**	**2020E**	**2021E**	**2022E**
Revenues ($000s)	13,412	10,525	25,303	33,512
EBITDA ($000s)	1,679	165	9,427	12,957
EPS	0.00	-0.06	0.05	0.07
EV/EBITDA	45.6x	462.2x	8.1x	5.9x
*=FD # shares assumes conversion of CD				



Profile

Microbix Biosystems Inc. (MBX-T) is a Canada-based life science company and manufacturer of viral and bacterial antigens and cell, culture-based biological products and technologies. MBX's catalogue of antigens covers +30 bacterial and viral pathogens implicated in maternal, pediatric, childhood, respiratory, sexually transmitted and insect-borne diseases. MBX is now focusing on a higher growth opportunity: its QAPs™ product line, targeting quality controls within accreditation organizations, IVD equipment manufacturers and clinical laboratories. Partners are being sought for its development asset, Kinlytic Urokinase, a biologic thrombolytic drug used to treat blood clots. MBX recently entered the high-volume viral transport media (VTM) market through a strategic relationship with the Government of Ontario. VTM sales are expected to become MBX's largest revenue stream within months of launch due to the Province's local sourcing needs and preferences.

Disclosure

Please refer to important disclosures on page 14.

FQ1/21 CONFIRMS POTENTIAL FOR SUBSTANTIAL REVENUE GROWTH AND MARGIN EXPANSION, RAISING TARGET TO $2.00 FROM $1.40

- **Revenues**. In FQ1/21, MBX recorded 54.3% revenue growth as its base antigen business showed initial signs of recovery off its COVID-19 induced slowdown. QAPs™ revenues accelerated from a $1.0m p.a. to ~$1.0m/quarter due to the broadening QAPS™ product offering (10 products) being sold through the newly-created international distribution network (6 distributors) and increased penetration into multinational test and instrument manufacturers.
- **Gross margins.** In FQ1/21, gross margins improved to 55.3% from 51.0% a year ago and from 34.8% in FQ4/20 driven by a combination of sales mix (higher margin QAPs™) and resolution of antigen bioreactor manufacturing issues.
- **Revenue growth drivers.** We expect a continued recovery in *antigen* revenues as the COVID-inspired expanded PCR test capability globally is broadened into infectious diseases generally. The *QAPs*™ product portfolio should expand from 10 registered/licensed products to 20 by the end of CY21 combined with increased distribution channel pull-through and increased penetration of multinational equipment and test manufacturers.
- **VTM.** The third revenue stream, *viral transport media* (VTM), revenues did not contribute in FQ1/21 as expected. However, initial shipments in FQ2/21 combined with management comments regarding production expansion planned for the end of FQ2/21 and by FQ4/21, imply that MBX is on track to generate significant first year VTM revenues – we forecast $11.0m in F21. The expected Government of Ontario funded order has not yet materialized, but we view this as a timing issue. In the interim, initial sales are being made to 3rd parties confirming production quality and interest.
- **Improved cash flow.** We forecast significantly improved cash flow for F21E/F22E off strong sales driven by the VTM opportunity, expanding gross margins and a marginally increased cost base.
- **Updated forecasts.** The single largest factor driving our updated estimates is the upward revised gross margins from the high 40%-range in F21E/F22E to the high 50%-range. This upward revision reflects further margin expansion expected off FQ1/21's 55.3% due to continued bioreactor improvements and sales mix with improved margin contributions from QAPs™ and VTM sales.
- **Target price $2.00**. This upward revision in gross margins contributes to an improvement in EBITDA margin which in turn is the primary driver behind the upward revision of our target price to $2.00 from $1.40. Our target price is derived by applying a 23.5x EV/F2022E EBITDA and a $5.0m notional value for the Kinlytic urokinase development asset.

MBX reported its FQ1/21 ending 31 December 2020 on 11 February 2021. We expect MBX to report its FQ2/21E ending 31 March 2021 in the second week of May 2021.

Q1/21 Revenues

Traditionally, FQ1 has been seasonally weak, however in FQ1/21 MBX reported revenue growth of 54.3% due to changing sales mix driven by increased QAPs™ sales. This was in line with our estimates.

Weak seasonality was attributed to softer antigen sales due to limited proficiency testing by clinical laboratories going into the Christmas season. Increased QAPs™ contribution will ameliorate this seasonality going forward.

Figure 1: MBX FQ1/21 revenues ($000's)

	Q1/21	Q1/20	% change	Explanation
Antigen products	2,138	1,946	9.8%	Early stages of a recovery in the antigen business, albeit off a lower base.
QAPs™	962	26	3585.5%	Initial success with regards to the new product launches during F2020 and the benefits of the new global distribution network.
VTM	-	-		A new product line that is expected to contribute $11.0m in revenues in F2021 commencing in FQ2/21E.
Royalties	57	74	-22.2%	
Total	**3,158**	**2,046**	**54.3%**	

Source: Company reports; KRC Insights

Antigen products. Antigen sales historically averaged ~$1.0m/month pre-COVID-19, but declined to less than ~$800k/month in F20 as COVID-19 testing crowded out all other infectious disease testing. MBX does not provide antibodies for COVID-19 antigen tests. Given the product composition of antigen revenues (infectious diseases excluding COVID-19), sales generally would fluctuate due to the strength/weakness of a flu season or end customer inventory levels. However, in F20, antigen sales declined 27.5% year over year due to: (i) general disruptions to the normal testing flow due to COVID-19, (ii) extensive lockdowns in China (new target market for MBX), (iii) an exceptionally strong flu season in 2019 which saw lower antigen orders from customers in F20, and, (iv) in FQ3/20, faulty supply of process material for the bioreactor-based rubella product which contributed to ~$500k in lost sales of rubella antigen (now resolved). In FQ1/21, PCR-based testing for infectious diseases has stabilized and starting to recover combined with the resolution of bioreactor production issues are resolved resulting in the improving trend in antigen sales.

QAPs™. MBX has sold QAPs™ to customers since 2008 and generated ~10% of total revenues in each year since at least 2017, or ~$1.0m p.a. The ~$1.0m in revenues in FQ1/20 represents, in our view, the commencement of a significant ramp in these revenues due to the 10 registered/licensed QAPs™ products being sold through a brand-new distribution network (comprising 6 new distributors) into accreditation agencies and clinical laboratories for laboratory proficiency testing. MBX also has a direct sales force targeting specific clinical laboratories directly. In this regard, MBX is starting to benefit from its major multinational equipment and test equipment manufacturer customers either recommending MBX QAPs™ be used to support their equipment, or buying directly from MBX.

Q1/21 Gross Margins

Gross margins of 55.3% were higher than our estimates of 47% and improved YoY (Figure 2) due to:

- **Sales mix**. Increased contribution from higher margin QAPs™ products.
- **Bioreactors**. Benefits of having transitioned antigen production to bioreactors. Management has stated that since the resolution of the bioreactor issues of FQ3/20, MBX has generated around a dozen sequential batches at/above budgeted yields.

Figure 2: MBX Q1/21 margins

	Q1/21	Q2/20	Explanation
Gross margin	55.3%	51.0%	Improved due to sales mix and transition to bioreactors (improved production efficiencies).

Source: Company reports; KRC Insights

Q1/21 Expenses

Total expenses were flat YoY (Figure 3) as management actively managed costs. During the quarter, MBX received $70.0k in assistance from the Canada Emergency Wage Subsidy (CEWS) program.

Figure 3: MBX Q1/21 expenses ($000's)

	Q1/21	Q2/20	Explanation
Selling and business development	171.7	204.2	
General and administrative	984.5	882.5	
R&D	197.9	265.3	
Total expenses	1,354.1	1,352.0	Q1/21 includes benefit of $70k CEWS subsidy.

Source: Company reports; KRC Insights

Cash flow and Balance Sheet

Cash balances increased to $417.4k in FQ1/21 from $92.7k in FQ4/20.

Referring to the cash flow statement, primary drivers contributing to increased cash include:

- Receipt of an initial grant disbursement of $867k from the Ontario Together Fund (OTF). On 13 October 2020, MBX announced a grant agreement with the OTF of the Ministry of Economic Development, Job Creation and Trade. The grant of $1.45m will cover 50% of the cost to automate QAPs™ production and viral transport media (VTM) required for Ontario's nucleic-acid testing of COVID-19.
- $243k from the proceeds of exercise of warrants.

Primary drivers contributing to uses of cash include:

- A $251.5k increase in working capital driven by a $236k increase in inventories to support the growing revenue base and also to ensure supply chain integrity at a time when global supply chains are being deeply challenged by the covered pandemic.

- The single largest quarterly investment ever by MBX on the purchase of property plant and equipment of $649.0k as it expanded its QAPS™ and VTM production capabilities. This was funded through the OTF grant.

Loans and Borrowings, both long term and short term, are shown in Figure 4. MBX does not have any short term debt constraints:

Figure 4: MBX total debt at Q1/21 ($000's)

	Current	Non-current	Total	Detail
Long term debt	212.8	2,358.3	2,571.1	$2.2m BDC loan, $308k FEDA for SA loan
Convertible Debentures	402.1	1,439.6	1,841.7	Face value $4.5m, 9%, convert at 23c, matures 2/22-1/29
Lease liability	156.1	345.4	501.5	
Non-convertible debentures	524.8	703.6	1,228.4	Face value $2.4m, 9% & 12%, matures 4/22 and 1/29
	1,295.8	4,846.9	6,142.7	
Equity component			2,903.8	Equity component of convertible debentures
Total debt			9,046.5	

Source: Company reports, KRC Insights

Total capital employed is sufficient to facilitate our anticipated revenue growth:

Figure 5: MBX – total capital employed. ($000s)

	31/12/20
Share capital	35,667.1
Equity component of CDs	2,903.8
Contributed surplus	10,236.5
Accumulated deficit	-41,763.2
Total equity	7,044.2
Total debt	6,142.7
Total capital employed	13,186.9

Estimate Changes

Our revenue estimates for F21E and F22E were revised upwards slightly (Figure 6), primarily to reflect a slightly higher QAPs™ growth rate for F21E. However, our most material revision was for an increase in gross margins from the high 40%-range in both F21E and F22E to the high 50%-range. This upward revision reflects further margin expansion is anticipated off the FQ1/21 margin of 55.3% which showed that bioreactor production issues had been overcome and QAPS™ margins and initial VTM margins were consistent with management's plans for new product introductions.

Revenues

Figure 6: MBX New vs Old Revenue Forecasts ($000's)

	2020A	2021E		2022E	
Sept. year-end		Old	New	Old	New
Antigen products	8,688	9,292	9,557	9,571	9,844
% growth	-27.5%	10.0%	10.0%	3.0%	3.0%
QAPs™	1,528	4,000	4,431	6,000	6,647
% growth	40.5%	166.7%	190.0%	50.0%	50%
VTM		11,000	11,000	16,700	16,700
% growth			Nmf	51.8%	51.8%
Royalties	309	359	315	366	321
% growth	-10.4%	2.0%	2.0%	2.0%	2.0%
Total Sales	**10,525**	**24,651**	**25,303**	**32,637**	**33,512**
Total revenue growth	-21.5%	139.4%	140.4%	32.4%	32.4%

Source: KRC Insights nmf=not meaningful

Antigen products. Our F21E 10% revenue growth forecast reflects a recovery off COVID-19 induced F20 lows and the 3% growth in F22E is consistent with the long term growth rate of this product line.

QAPs™: High growth rates are expected to be driven by heightened bio-vigilance and the substantially increased COVID-induced new capacity of sophisticated molecular and other testing transitioning to infectious diseases generally. We expect continued adoption of PROCEEDx (qualification of new instruments, staff training) and REDx (QC and QA in clinical laboratories) controls. More specifically:

- Broaden the QAPs™ product offering through the registration of an additional 10 products through CY21 on top of the existing:
  - Four COVID-19 vials/swabs
  - Four Human papillomavirus (HPV) test products
  - Two for sexually transmitted diseases (Mycoplasma genitalium),
- Geographic expansion into Europe targeting proficiency testing organizations,
- New customers, including diagnostics equipment manufacturers to develop viral respiratory QAPs™ for new point-of-care instruments,
- COVID-19 market penetration, driven by positive and negative controls in both liquid vial and dried swab formats,
- Strategic relationship with the COPAN Group.

VTM. MBX's new viral transport medium (VTM) product line (internally branded as DxTM) remains a transformational revenue stream from our perspective. MBX commenced DxTM production at ~50,000 vials/week, with the intention to increase that rate to 100,000 vials/week by the end of FQ2/21 (31/3/21) by adding an additional shift. Management expects to reach 150,000 vials/week by the addition of a third shift and moving production to 7 days/week. Further scale-up and automation is required to attain Ontario's original request for production of over 400,000 vials/week by the end of F21 (September 30, 2021)[1].

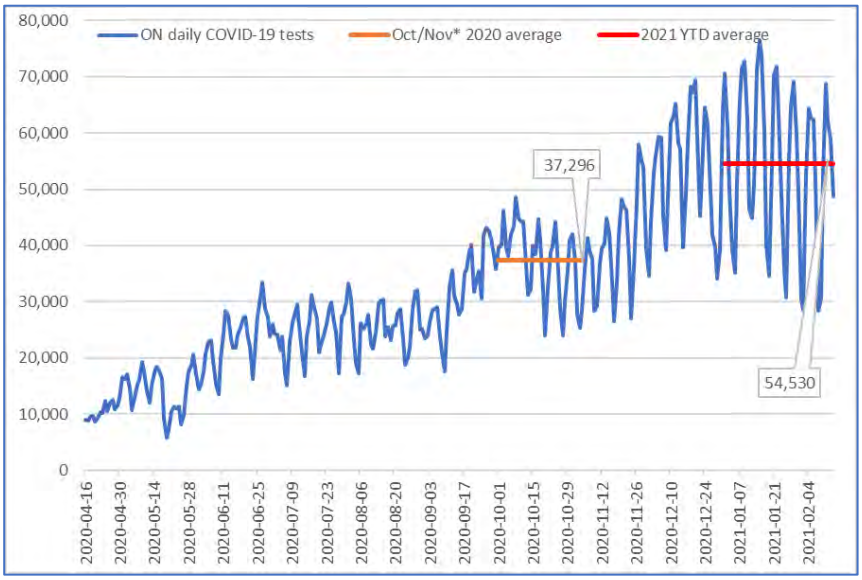
[1] https://microbix.com/microbix-announces-material-first-sales-of-viral-transport-medium/

The Government of Ontario's $1.4m OTF grant is intended for MBX to expand production by way of automated high-volume manufacturing for (i) VTM at up to 60,000 units per day, and (ii) QAPs™ at up to 10,000 units per day[2].

A 60,000 vials/day production run rate implies that Ontario's request of 400,000 vials/week is roughly equivalent to a single shift, 7 days/week. Currently, MBX is producing 10,000 vials/day 5 days/week, this implies that MBX is planning to increase production 6x over the next 7 months to meet the Government of Ontario's funded volume requirements.

To provide context for the Government of Ontario's funded expansion of 60,000 vials/day (or 400,000 vials/week), it is currently undertaking an average of 54,530 COVID-19 tests/day through 2021 YTD (Figure 7).

Figure 7: Ontario daily COVID-19 tests



Source: https://covid-19.ontario.ca/data; KRC Insights

When we initiated coverage of MBX, the Province's COVID-19 test run rate was averaging 37,296 tests/day (Figure 7). At that time, we based our F22E VTM revenue forecast on the assumption that the Government of Ontario would source only 25% of its VTM requirements from MBX, implying $16.7m in VTM revenues to MBX. In Figure 8, we show a sensitivity analysis determining potential revenues to MBX under three scenarios:

- (A) - the potential revenues that could be generated at 100% production capacity as funded by the OTF grant.
- (B) – our estimate of potential revenues to MBX if the Government of Ontario were to source only 25% of its COVID-19 VTM requirements from MBX (at initiation of coverage date).
- (C) – The potential revenues to MBX of assuming 25% of the Government of Ontario's current COVID-19 VTM requirements.

[2] https://news.ontario.ca/en/release/58795/ontario-increases-production-of-covid-19-testing-supplies

Figure 8: VTM revenues at: (A) 100% volume production, (B) sold to Ontario, (C) current test run rate ($000s)

	Daily volume	ASP**	Capacity	Implied revenues to MBX
QAPs	10,000	$25	100%	$90,000
VTM	60,000	$5	100%	$108,000
A (full capacity revenue run rate)				$198,000
	Daily volume	**ASP****	**ON Offtake**	**Implied revenues to MBX**
QAPs	746	$25	10%	$671
VTM	37,296*	$5	25%	$16,783
B (Ontario at 25% of its testing run rate at initiation of coverage)				$17,454
	Daily volume	**ASP****	**ON Offtake**	**Implied revenues to MBX**
C (Ontario at 25% of its current daily test run rate)	54,530*	$5	25%	$24,539

Source: Volumes: Ontario Government; Pricing and other: KRC Insights; *=COVID tests (Figure 7) , **=KRC estimate, ASP=Average Selling Price

Despite the recent 46.2% increase in testing (to 54,530 from 37,296) we are maintaining our $16.7m revenue run rate vs $24.5m (at current test levels) to account for normal production ramp risk, anticipated volatility in future COVID testing brought about by the Province's vaccination strategy, and to see evidence of MBX's stated intention to position VTM beyond COVID-19.

In summary, we expect that MBX is historically antigen-based business will be superseded by two new higher margin revenue streams: QAPs™ and VTM.

Margins

From an EBITDA perspective, we have materially revised upwards our gross margin assumptions which positively impacts our EBITDA forecasts.

We have increased our gross margin forecasts from the high 40%-range for both F21E and F22E to the high 50%-range. This upward revision reflects further margin expansion is anticipated off the FQ1/21 margin of 55.3% due to:

- *antigen* bioreactor production issues are overcome. In the FQ1/21 MD&A, management stated that "with a near cessation of batch losses and significant improvements to average net yields that will be reflected from Q2 fiscal 2021 onward",
- *QAPS™* margins were consistent with management's plans for new product introductions, and
- initial *VTM* margins on sales reported post FQ1/20 were also consistent with management expectations.

Figure 9: MBX New vs Old EBITDA forecasts ($000s)

	2020A	2021E		2022E	
Sept. year-end		Old	New	Old	New
EBITDA	165	6,406	9,427	9,232	12,957
Margin	1.6%	26.0%	37.3%	28.3%	38.7%

Accordingly, with continued strong cost control, the gross margin improvement is expected to filter down to the EBITDA margin, which expands by roughly the same rate as the gross margin expansion (Figure 9).

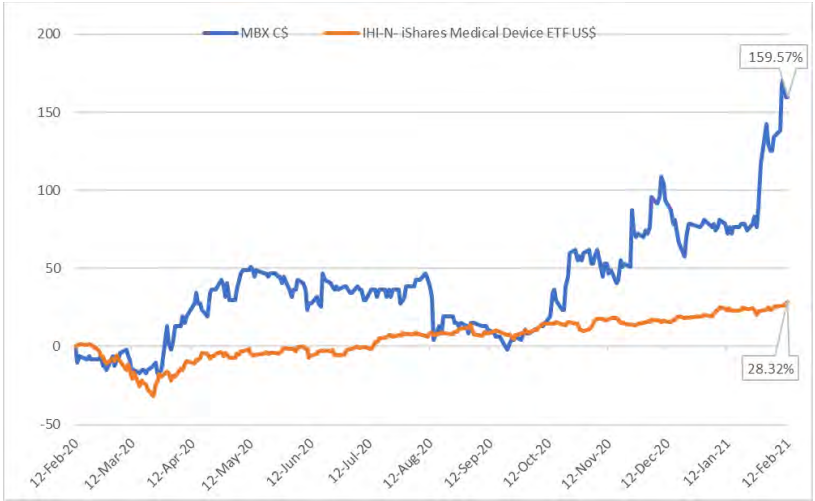
Valuation

As an overview, on a year-to-date basis, the MBX share price has outperformed the iShares U.S. Medical Devices ETF (IHI-N), generating a 12-month return of +159.6% return vs +28.3% of the ETF (Figure 10).

The recent MBX share price appreciation was a reaction to the company's announcement of initial VTM shipments post quarter end.

IHI is a ~US$9.2bn ETF and its holdings comprise, amongst others, several MBX customers and/or companies listed in Figure 11. It offers exposure to U.S. companies that manufacture and distribute medical devices and is used to express a sector view.

Figure 10: MBX share price vs iShares U.S. Medical Devices ETF (pricing at 12/2/21)



Source: Refinitiv Eikon, KRC Insights

On a more targeted basis, MBX's listed comparable companies are shown in Figure 11 and comprise the companies used to derive the valuation multiples used in the MBX valuation. The list includes competitor/distributor Meridian Bioscience Inc. (VIVO-Q) and immunoassay customers.

Figure 11: MBX comparable company valuations (currency per exchange, pricing at 12/2/21)

					EBITDA		Revenues		Rev	EV/EBITDA		EV/Revenues	
	Symbol	Price	Mkt Cap	EV	2020A	2022E	2020A	2022E	Growth	2020A	2022E	2020A	2022E
Microbix Biosystems Inc	**MBX.TO**	**0.62**	**67.9**	**73.6**	**0.2**	**13.1**	**10.5**	**33.5**	**218.4%**	**444.64x**	**5.62x**	**6.99x**	**2.20x**
Bio Rad Laboratories Inc	BIO.N	662.35	19,771.5	18,788.8	537.4	580.7	2,545.6	2,735.2	7.4%	34.96x	32.36x	7.38x	6.87x
Bio-Techne Corp	TECH.O	398.86	15,475.3	15,432.8	270.0	388.9	738.7	1,003.9	35.9%	57.16x	39.68x	20.89x	15.37x
Danaher Corp	DHR.N	245.9	174,681.8	193,129.8	6,581.0	8,578.6	22,284.0	27,405.4	23.0%	29.35x	22.51x	8.67x	7.05x
DiaSorin SpA	DIAS.MI	185.6	10,392.6	10,193.6	276.8	426.9	706.3	1,024.0	45.0%	36.83x	23.88x	14.43x	9.95x
Meridian Bioscience Inc	VIVO.O	29.82	1,286.6	1,301.9	77.4	123.2	253.7	312.6	23.2%	16.82x	10.57x	5.13x	4.16x
Quidel Corp	QDEL.O	227.97	9,590.2	9,519.3	170.9	650.4	534.9	3,098.4	479.3%	55.70x	14.64x	17.80x	3.07x
Thermo Fisher Scientific Inc	TMO.N	507.83	201,270.9	212,680.9	10,214.0	10,210.2	32,218.0	34,434.5	6.9%	20.82x	20.83x	6.60x	6.18x
Totals/**Average**							59,281.2	70,014.1	**18.1%**	**35.95x**	**23.49x**	**11.56x**	**7.52x**
VIVO-no F2022E esitimates, used F2021E EBITDA estimate													

Source: Refinitiv Eikon, KRC Insights

Within the context of determining the reasonableness/context of the current comparables' valuation multiples as per Figure 11, we show the trend in valuation multiples (EV (enterprise value)/NTM (next 12 months) EBITDA) of this group in Figure 12, over the past year. The group underwent multiple expansion in the March 2020 time frame as investors priced in immunoassay companies as defensive plays and also the COVID-19 opportunity.

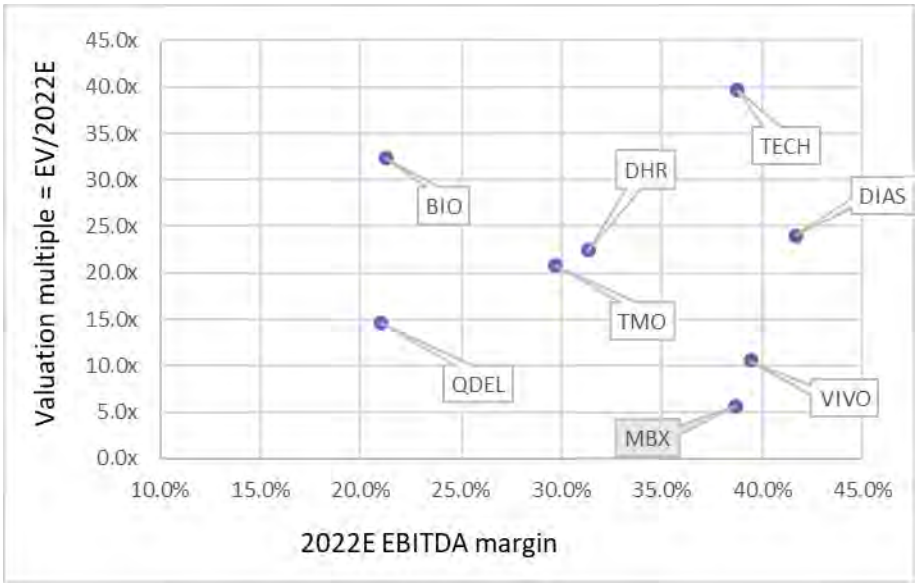
But nevertheless, the current comparable company average EV/NTM EBITDA of 22.77x (Figure 12) is not extended and implies that our use of 23.49x EV/F22E EBITDA multiple for MBX is reasonable.

Figure 12: MBX comparable companies' average EV/NTM EBITDA multiples (pricing at 12/2/21)

Source: Refinitiv Eikon, KRC Insights

Despite being forecast to generate one of the higher EBITDA margins (and revenue growth rates) in our comparable company inverse, MBX is attributed the lowest valuation multiple (Figure 13). We believe that the shares will undergo a substantial valuation rerating as investors begin to price in the MBX revenue growth and margin expansion potential.

Figure 13: MBX and comparable companies valuation multiples vs EBITDA margins



Source: Refinitiv Eikon, KRC Insights

Previously, we derived our target price for MBX using the average of both an EV/EBITDA and EV/Sales multiples (Figure 14). We now move over to a multiple of EV/EBITDA only. The increase in our target price is driven primarily by our upwardly revised 2022E EBITDA margin forecasts, to 38.7% from 28.3%.

Figure 14: MBX valuation ($000s)

		New EBITDA	Old EBITDA	Old Sales
F2022E metric	$000s	12,957	9,232	32,637
Multiple	x	23.5x	22.5x	7.0x
Enterprise Value	$000s	304,349	207,731	228,456
Add: Cash 2022E	$000s	13,078	6,175	6,175
Less: Debt 2022E*	$000s	3,550	3,802	3,802
Implied market cap	$000s	313,877	210,103	230,829
Kinlytic urokinase	$000s	5,000	5,000	5,000
MBX valuation	$000s	318,877	215,103	235,829
FD # shares*	000s	159,281	159,115	159,115
Target price	$	**2.00**	1.35	1.48
Average (rounded)	**$**		**1.40**	
***=assumes conversion of the CDs.**				

Source: KRC Insights

With regards to the number of shares, we have assumed conversion of the convertible debentures (Figure 15):

Figure 15: Fully diluted number of shares (000s)

	Shares	Options	Warrants	Convert. Deb	Total
As at FQ1/21 (31/12/20)	109,447	7,740	22,529	19,565	159,281

Source: Company reports, KRC Insights

Despite the Kinlytic Urokinase (KU) asset write-down of $3.1m in FQ4/20, we continue to provide a $5.0m notional value for this asset. Management remains actively seeking partners to assist in the commercialization of this development asset. On the FQ1/20 conference call, management stated that "we've had further discussions with new parties as recently as last week and we have another one following this one".

The best partners for KU commercialization remain companies selling into the hospital environment, such as drugs or devices, but these companies were negatively impacted by their own COVID-19 induced revenue slowdowns and have been unable to commit to the capex requirement (~US$20m) to move forward with this project. These businesses are beginning to recover. While the timing of closing and financial details of such a transaction are difficult to predict, we are confident that a development partner will be found.

Also, given our forecast cash generation for MBX over the next two years and evidence of its sustainability becomes evident, we believe that this increases the opportunity for MBX to move forward with commercialization either by itself or requiring a smaller upfront cash commitment from a partner. Given the size of the addressable market, commercialization of KU will be material to MBX based on a back-of-envelope assumption of a 20% share of a US$1.0bn p.a. market.

We derive a $2.00 target price for MBX using an EV/EBITDA approach and adding $5.0m for the KU development asset.

Figure 16: MBX historical and forecast income statement ($000s)

Sept. year-end	2019	2020	Q1/21	Q2/21E	Q3/21E	Q4/21E	2021E	2022E
Antigen products	11,981	8,688	2,138	2,641	2,583	2,196	9,557	9,844
% growth	-1.7%	-27.5%	9.8%	12.0%	15.0%	2.7%	10.0%	3.0%
QAPs	1,087	1,528	962	1,448	798	1,223	4,431	6,647
% growth		40.5%	3585.5%	240.0%	40.0%	141.7%	190.0%	50.0%
VTM				1,000	3,000	7,000	11,000	16,700
% growth								51.8%
Royalties	345	309	57	93	84	81	315	321
% growth	8.0%	-10.4%	-22.2%	2.0%	2.0%	30.9%	2.0%	2.0%
Total Sales	**13,412**	**10,525**	**3,158**	**5,181**	**6,465**	**10,499**	**25,303**	**33,512**
Total revenue growth	7.2%	-21.5%	54.3%	80.2%	123.1%	288.0%	140.4%	32.4%
Cost of goods sold	**(6,865)**	**(5,864)**	**(1,410)**	**(2,143)**	**(2,698)**	**(4,146)**	**(10,397)**	**(13,491)**
Gross Margin	6,547	4,661	1,747	3,038	3,767	6,353	14,906	20,020
Selling and business dev.	(652)	(633)	(172)	(233)	(213)	(318)	(936)	(1,340)
General and administrative	(3,744)	(3,540)	(984)	(1,010)	(1,002)	(1,178)	(4,175)	(5,194)
Research and development	(1,042)	(1,013)	(198)	(238)	(304)	(399)	(1,139)	(1,407)
Total costs	(5,438)	(5,185)	(1,354)	(1,482)	(1,519)	(1,895)	(6,250)	(7,942)
Operating (Loss)/income	1,110	(525)	393	1,557	2,248	4,459	8,657	12,078
Interest paid	(1,066)	(1,056)	(262)	(250)	(250)	(318)	(1,080)	(540)
Other		(3,079)						
Net income before taxation	44	(4,659)	131	1,307	1,998	4,141	7,577	11,538
Taxation	(12)	(1,568)				(38)		
Net income	**32**	**(6,228)**	**131**	**1,307**	**1,998**	**4,103**	**7,577**	**11,538**
EPS - Basic	**$ 0.00**	**($ 0.06)**	**$ 0.00**	**$ 0.01**	**$ 0.02**	**$ 0.04**	**$ 0.07**	**$ 0.10**
EPS - FD	**$ 0.00**	**($ 0.06)**	**$ 0.00**	**$ 0.01**	**$ 0.01**	**$ 0.03**	**$ 0.05**	**$ 0.07**
Weighted avr. no. shares - Basic	97,085	101,954	108,995	109,447	109,447	109,447	109,447	109,447
- FD	135,995	153,242	158,829	159,281	159,281	159,281	159,281	159,281
	2019	**2020**	**Q1/21**	**Q2/21E**	**Q3/21E**	**Q4/21E**	**2021E**	**2022E**
Gross profit %	48.8	44.3	55.3	58.6	58.3	60.5	58.9	59.7
Operating margin %	8.3	(5.0)	12.5	30.0	34.8	42.5	34.2	36.0
EBITDA $000's	1,679	165	567	1,737	2,428	4,695	9,427	12,957
EBITDA margin %	12.5	1.6	18.0	33.5	37.6	44.7	37.3	38.7
Effective tax rate %	26.8	(33.7)	--	--	--	0.9	0.5	0.5
Net margin %	0.2	(59.2)	4.1	25.2	30.9	39.1	29.8	34.3

Source: Company reports, KRC Insights

Appendix I: Terminology

Analyte: a substance whose chemical constituents are being identified and measured.

Antigen: An antigen is any substance that causes your immune system to produce antibodies against it. This means your immune system does not recognize the substance, and is trying to fight it off.

Bioreactor: A bioreactor is an apparatus for growing organisms (yeast, bacteria, or animal cells) under controlled conditions. Used in industrial processes to produce pharmaceuticals, vaccines, antigens or antibodies.

CE: Conformité Européene, a certification mark that indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area.

CEW: Canada emergency Wage Subsidy.

Clinical laboratory: is a healthcare facility providing a wide range of laboratory procedures which aid physicians in carrying out the diagnosis, treatment, and management of patients.

Epitope: specific area where a specific antibody binds with an antigen.

Immunoassays: quick and accurate tests that can be used on-site and in the laboratory to detect specific molecules.

Immunoglobulin: is the most common type of antibody in blood and other body fluids. Produced by plasma cells (white blood cells).

IVD: In vitro device (IVD) diagnostics are tests done on samples such as blood or tissue that have been taken from the human body. These are typically regulated.

Laboratory accreditation: A means of determining the technical competence of laboratories to perform specific types of testing, measurement and calibration.

LDT: A laboratory developed test (LDT) is a type of in vitro diagnostic test that is designed, manufactured and used within a single laboratory.

Microtiter plate: is a flat plate with multiple "wells" used as small test tubes. The microplate has become a standard tool in analytical research and clinical diagnostic testing laboratories.

OTF: Ontario Together Fund.

PCR: polymerase chain reaction (PCR) test.

Proficiency testing: (PT) the performance evaluations for regulatory purposes, typically applies to laboratories and their specific tests or measurements.

Quality controls: also referred to quality assessment products (QAPs^{TM}), are inactivated and stabilized samples of pathogen are created to resemble patient samples in order to support one or more of (i) the proficiency testing (PT) of labs, (ii) test development, instrument validation and technical training, or (iii) quality management of patient testing by clinical laboratories.

Roller bottle: Cylindrical in shape, a roller bottle is used to grow and store cell cultures. Placed on a roller, roller bottles are slowly rotated and bathe cells that are attached to the inner surface of the bottle. Roller bottles are typically made of plastic or autoclavable glass.

ToRCH: An acronym for a group of infections that can cause significant birth defects and even fetal death. The ToRCH test measures the levels of an expecting mother's antibodies against five groups of chronic infections: toxoplasmosis, rubella, cytomegalovirus (CMV), herpes simplex virus (HSV) and other infections.

VTM: Viral Transport Media are vials of liquids 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.

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