Universal Biosensors Inc. (UBI)

Interims provide confidence; Exciting product development pipeline

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Recommendation	Buy
Risk Rating	**High**
24-mth Target Price (AUD)	**$1.69 (was $1.42)**
Share Price (AUD)	$0.795
12-mth Price Range	$0.19 - $0.845
Forecast 24-mth Capital Growth	113%
Forecast 24-mth Dividend Yield	0.0%
24-mth Total Shareholder Return	**113%**
Market cap ($m)	141.2
Net debt (net cash) ($m)(Jun 21)	(20.0)
Enterprise Value ($m)	121.3
Gearing (Net Debt/ Equity)	N/a – Net Cash
Shares on Issue (m)	177.6
Options / Perf rights on Issue (m)	9.0
Sector	Healthcare
Average Daily Value Traded ($)	$141,000
ASX 300 Weight	n/a

Financial Forecasts

Years ending Dec $m	19(A)	20(A)	21(e)	22(e)	23(e)
Sales revenue	6.9	3.2	7.4	14.1	28.2
Sales growth	-72%	-54%	132%	90%	100%
Cash operating costs	-16.6	-13.4	-14.5	-17.3	-23.3
EBITDA	-5.0	-6.2	-4.2	-1.4	6.6
NPAT (reported)	-4.8	-7.6	-6.4	-3.7	4.0
NPAT (adjusted)	-4.8	-8.3	-6.4	-3.7	4.0
EPS (adjusted)	-2.7	-4.7	-3.4	-2.0	2.2
EPS growth	8%	71%	-27%	nm	large
DPS	0.0	0.0	0.0	0.0	0.0
OCF / share	18.7	-4.7	-4.8	-0.5	4.6
Valuation Metrics					
P/E	-29.1x	-17.0x	-23.4x	-40.1x	36.9x
P / OCF	4.2x	-17.0x	-16.4x	-174.9x	17.3x
EV / Sales	15.7x	37.0x	17.2x	9.2x	4.4x
EV / Ebitda	-21.7x	-19.1x	-30.0x	-93.9x	18.7x
Cash from Operations	33.2	-8.3	-9.0	-0.8	8.6
Net Cash (Net Debt)	37.2	23.9	13.9	11.5	18.5
Enterprise Value	108.6	118.6	127.3	129.7	122.7

UBI SHARE PRICE PERFORMANCE

Summary

Universal Biosensors Inc. (UBI) is a specialist biosensors company focussed on the development, manufacture and commercialisation of a range of point-of-use devices for measuring different analytes across different industries. UBI's strategy is to build a multi-product stable of revenue generating biosensors in large markets which can be used on UBI's hand-held platform technology including Human health (coagulation, oncology), Animal health (diabetes), Food & Beverages (wine) and Environmental.

Historically UBI has developed products for industry majors on a contract R&D basis plus milestones (e.g. novel blood glucose tests for LifeScan / J&J – 10bn tests sold; Coagulation tests for Siemens – 9m tests sold). With a new CEO, UBI now plans to control its own destiny with exciting new products and break-through technology from new partners.

Interim Results

- 1H21 revenue $3.4m (v $1.1m pcp) +$2.3m or 219%, 13% ahead of our $3.0m forecast.
- Coagulation +$1.2m (+140%) & HRL services +$0.6m +251% from recovery in testing volumes plus organic growth; $0.6m from Sentia Wine Analyser since launch.
- Group gross profit margin 40% (v -12% pcp).
- Ebitda loss -$2.1m (v -$4.1m pcp) a $2.0m improvement; NLoss -$3.2m (v -$5.1m pcp).
- Cash burn -$5.5m (v -$5.2m pcp).
- Net cash $20.0m (v $22.1m Dec), enough for 3.7 years at the current burn rate.
- Exciting product development pipeline: 3 further Sentia tests by Dec; New cancer Tn Antigen biosensor to commence clinical later trials this year.
- 2022: 2 further Sentia tests; Gen 2 coagulation test; New animal Blood glucose test.
- Further partnerships and/or acquisitions expected to leverage UBI biosensor platform (+ Lubricin enhancer).

TN Antigen cancer biosensor

We also discuss the exciting potential for this new UBI cancer detection and monitoring product under development (already 7 years of development work by 3 universities). A US comp we found called Grail Inc is being acquired for US$8bn (A$10.9bn) which demonstrates the significant value creation possible if UBI is successful. We add $50m to our valuation (27 cents per share) as an initial, conservative estimate.

Recommendation & Opinion

No change to our forecasts. Our 24-month price target is now $1.69 (was $1.42) including Tn for the first time. We reiterate our Buy (High Risk) recommendation.

1. Interim Results

UBI - 1H21 Results Review 6 months ended Jun $m Years ended Dec $m	1H20	2H20	CY20 Year	1H21	Change %	Sequoia 1H21 est.	Variance %	Our Comments
Coagulation test strips (Siemens & new)	0.8	1.7	2.6	1.992	140%	1.7	14%	Strong bounce-back post Covid, plus new customers
Sentia Wine Analyser (new product)	0.0	0.0	0.0	0.579	nm	0.7	-17%	Launched March, so still early days
Subtotal - Product revenue	**0.8**	**1.7**	**2.6**	**2.571**	**210%**	**2.4**	**5%**	**Strong growth, even excluding the new product**
HRL (Services revenue)	0.2	0.4	0.6	0.821	251%	0.6	37%	Strong bounce-back post Covid, plus new customer Bayer
Op. Revenue	**1.1**	**2.1**	**3.2**	**3.392**	**219.0%**	**3.0**	**13%**	Revenue better than expected
Revenue growth	-73%	-27%	-54%	219%		179%		
Cost of Goods - product sales	(0.7)	(1.0)	(1.7)	(1.4)	89%	(1.0)	35%	
Cost of services	(0.4)	(0.4)	(0.9)	(0.6)	38%	(0.3)	90%	
Cost of Sales - total	**(1.2)**	**(1.4)**	**(2.6)**	**(2.0)**	**70%**	**(1.4)**	**48%**	
Gross profit - product sales	0.09	0.76	0.85	1.16	nm	1.40	-17%	Xprecia Stride & Sentia looking positive
Gross profit - services	(0.22)	(0.01)	(0.23)	0.20	nm	0.20	1%	HRL bounces back into gross profit
Gross Profit - total	**(0.13)**	**0.75**	**0.62**	**1.37**	nm	**1.60**	-15%	
Gross Profit Margin - product sales	10%	44%	33%	45%	35%	54%	-9%	Gross margin improving
Gross Profit Margin - services	-92%	-3%	-36%	24%	117%	54%	-29%	HRL now in positive territory
Gross Profit Margin - total	**-12%**	**35%**	**19%**	**40%**	**53%**	**54%**	**-14%**	Gross margin improving
Other Income	1.9	2.2	4.1	1.9	2%	1.4	40%	Government R&D grants $1.3m (v $1.2m pcp)
Cash Operating Expenses	**(5.9)**	**(4.8)**	**(10.6)**	**(5.4)**	**-8%**	**(5.3)**	**2%**	Costs down 8%
Cash operating costs % of Sales	-551%	-222%	-331%	-158%		-176%		
Share based payments (non cash)	0.0	(0.3)	(0.3)	0.0	nm	(0.1)	nm	
EBITDA	**(4.1)**	**(2.1)**	**(6.2)**	**(2.1)**	-49%	**(2.4)**	-13%	Small loss, slightly better than expected
Ebitda Margin	-388%	-98%	-194%	-62%		-82%		
Depreciation & Amortisation	(1.1)	(1.1)	(2.2)	(1.1)	-6%	(1.0)	7%	
EBIT	**(5.3)**	**(3.2)**	**(8.5)**	**(3.2)**	-40%	**-3.4**	-7%	EBIT loss $0.2m lower than expected
Ebit Margin	-495%	-149%	-264%	-94%		-116%		EBIT margin still firmly negative
Net Interest Income (Expense)	0.144	(0.005)	0.139	(0.033)		0.0	nm	
Pre-tax profit	**(5.1)**	**(3.2)**	**(8.3)**	**(3.2)**	-37%	**(3.4)**	-6%	
Income Tax Credit (Expense)	0.00	0.00	0.00	0.00		0.0		UBI has significant available tax losses
Tax Rate	0.0%	0.0%	0.0%	0.0%		0.0%		
Abnormal items	0.6	0.1	0.7	0.0		0.0		Prior period abnormal was Insurance recovery
NPAT (reported)(incl Abs)	**(4.5)**	**(3.1)**	**(7.6)**	**(3.2)**	-29%	**(3.4)**	-6%	
Add back: Abnormals	-0.6	-0.1	-0.7	0.0		0.0		
NPAT (normalised)	**(5.1)**	**(3.2)**	**(8.3)**	**(3.2)**	-37%	**(3.4)**	-6%	Normalised Net Loss $3.2m down $1.9m
EPS - Reported (cents)	(2.5)	(1.8)	(4.3)	(1.8)	-29%	(1.8)	-2%	
EPS - Normalised (cents)	**(2.9)**	**(1.8)**	**(4.7)**	**(1.8)**	**-37%**	**(1.8)**	**-2%**	EPS loss per share down 37%
Share count (Weighted average)	177.6		177.6	177.6	0%	186.7	-5%	
Share count (Period end)	177.6		177.6	177.6	0%	177.6	0%	
Cash Flow items								
Cash receipts from customers	0.6	4.1	4.7	1.6	179%	1.6	0%	
Cash paid to suppliers and staff	(5.8)	(7.2)	(13.0)	(7.1)	23%	(7.1)	0%	
Other	0.0	(0.0)	(0.0)	0.0		(3.2)		
Operating cash flow	**(5.2)**	**(3.1)**	**(8.3)**	**(5.5)**	5%	**(8.6)**	-37%	Cash outflow of -$5.5m up 5% on pcp, but better than expec
Investing cash flow	(0.2)	(0.2)	(0.4)	(0.3)	66%	(0.3)	6%	
Financing cash flow	0.0	0.0	0.0	0.1	95%	0.0		
Change in cash	**(5.3)**	**(3.3)**	**(8.6)**	**(5.7)**	**7%**	**(8.9)**	**-36%**	
OCF per share (cents)	**(2.9)**	**(1.7)**	**(4.7)**	**(3.1)**	**5%**	**(4.6)**	**-34%**	Negative Operating cash flow per share -3.1 cents
Balance Sheet items								
Net Cash (Debt)	21.7		23.9	20.0	-8%	14.9	34%	Net cash $20m enough for 3. years at current burn rate
Debtors	0.1		0.1	0.7	719%	0.6	17%	Debtors up 7 fold Vs revenue up 219%
Inventories	0.6		1.9	1.5	141%	1.7		Inventories are 29% of product sales (annualised)
Creditors	(1.3)		(1.6)	(1.5)	18%	(1.6)	-4%	Creditors up 18% Vs revenue up 219%
Working Capital	**(0.6)**		**0.4**	**0.7**	-216%	**0.7**	-6%	Increased investment in working capital partly due to Sentia
Debtor days (annualised)	16		8	40	157%	39	2%	Debtor days look OK 40 days.
Creditor days (annualised)	223		182	83	-63%	98	-16%	Creditor (& accruals) days 83 days look slow
Goodwill	0.0		0.0	0.0		0.0		
Other Intangibles	15.1		14.3	13.5	-11%	14.3	-6%	Distribution rights (being amortised over 10 years)
Total Assets	**61.9**		**56.4**	**50.1**	-19%	**49.1**	2%	
Liabilities include:								
Deferred revenue - current (Siemens)	(3.2)		(1.6)	(0.055)	-98%	0.0		The US$4.0m prepaid revenue has no been earned.
Deferred revenue - non-current (Siemens)	(0.1)		0.0	0.0	-100%	0.0		
Deferred revenue - Total	**(3.4)**		**(1.6)**	**(0.1)**	**-98%**	**0.0**	**nm**	
% of sales (annualised)	158%		51%	1%		0%		
Total Shareholders Funds	**41.0**		**38.0**	**34.8**	-15%	**34.5**	1%	Down $3.2m in the period due to the 1H loss
NTA per share	$ 0.146		$ 0.133	$ 0.120	-18%			UBI has modest net tangible assets

Source: UBI accounts; Sequoia forecasts and analysis

1H21 Results analysed.

UBI's interim results were slightly ahead of our forecasts 1H forecasts. No changes required to our full year forecasts.

- Group revenue $3.4m (v $1.1m pcp) +$2.3m or 219%. This was 13% ahead of our $3.0m forecast.
- Gross profit $1.4m (v -$0.1m pcp). Gross profit margin 40% (v -12%).
- R&D expense was $2.8m (v $2.6m) +7%. This represented a whopping 83% of sales (v 247% pcp and 157% in CY20) which shows that UBI is still very much in development mode, and revenues are still small.
- Ebitda loss -$2.1m (v -$4.1m pcp), a $2.0m improvement.
- Net loss -$3.2m (v -$5.1m pcp), a $1.9m improvement.

Coagulation Testing Product (Xprecia Stride)

- Coagulation testing product revenue was $2.0m (v $0.8m pcp) +140%. We understand approximately half this growth was a testing volume recovery in the market. The other half was UBI & Siemens migrating existing Siemens' Diagnostic Healthcare distributors and hospitals to deal directly with UBI, plus some new distributors signed by UBI outside of Siemens. UBI is now supplying Siemens (globally, but mainly Europe, not much in the US) and around 40 other distributors in Macedonia, Czech Republic, Chile, Switzerland, Malaysia and Romania. All of Siemen's accounts for Xprecia Stride must be migrated by March 2023 under the terms of UBI's staged acquisition of the business.
- We expect sales and margins to grow strongly as the migration occurs, as contracts with over 120 hospitals and distributors roll off and are re-signed directly to UBI (hopefully with minimal leakage). The current installed base is over 3,500 units in hospitals and clinics in 36 countries (mainly Europe).
- A new improved version/ generation of the Xprecia Stride device and test strip is nearing completion and should be ready for testing next year. Importantly, UBI expects to secure US approval for hospital, clinical and home use. This will be launched under a new UBI brand before March 2023. The installed base of hospitals and clinics are expected to upgrade to the new product.

Sentia Wine Analyser

- 1H revenue for the new Sentia Wine Analyser product launched in March came in at $579k. This was slightly less than the ~$750k indicated in the 30/6/21 AGM slide as some sales that were expected for June slipped into July. We are forecasting sales of $1.4m for CY21 (which still looks achievable), and a ramp up to $5.9m in CY22.
- Distributors have been signed or are being trialled in 10 countries including USA, Canada, Australia, NZ, South Africa and Europe. A further 19 in Europe are trialling the device with sample units. Further announcements expected in 2H21.
- We also had discussions with the CEO of Grapeworks Pty Ltd, the Australian & New Zealand exclusive distributor for Sentia which was positive.
- We continue to believe that Sentia has strong global potential into the winemaking industry, offering time, convenience and cost benefits Vs traditional manual and off-site lab testing.

Products Margin

- Gross margin for the Products segment (Xprecia Stride + Sentia) was 45% (v 10% pcp and 19% 2H20) as Sentia kicked in and organic growth and volume returned for Xprecia Stride as explained above.

Coagulation Testing Services (HRL)

- HRL revenue was $$0.8m (v $0.2m pcp) up 251%, as demand for mandatory testing by organisations doing clinical trials in the coagulation area increased. In addition, UBI announced a quality new customer – Bayer on 30/12/20 which also contributed to the improved result.
- HRL (based in Canada) now has 6 customers including Siemens and is experiencing strong demand. There are a limited number of service providers so UBI is planning further growth and expansion of this complementary business.
- Gross margin was 24% for 1H21 (v -92% pcp and -36% 2H20).

Cash Flow

- Cash receipts from customers was $1.6m (+179%) Vs accounting revenue $3.4m (+219%). The $1.8m mis-match is due to Siemens pre-paying US$4.0m of royalties to UBI in December 2019. UBI has now earned this deferred revenue (Deferred revenue of $nil remaining on the balance sheet at June 2021 per CFO Vs $1.6m at Dec 2020). We expect Siemens will resume paying UBI regular royalties from now on, until termination in March 2023. All aspects of the business will then be in UBI's hands.
- Operating cash-flow was -$5.5m (v -$5.2m pcp).
- Investing cash-flow was $0.3m (v $0.3m). Research and development costs are fully expensed currently.

Balance Sheet

- Net cash was $20.0m at end-June (v $22.1m at end-Dec 2020) including $3.6m of restricted cash (backing the Siemens agreement).
- UBI has Property plant & equipment on the balance sheet of $4.2m (being $29.5m cost less $25.3m accumulated depreciation). We expect most of this would be plant and equipment at UBI's leasehold premises at Rowville where we recently attended for a site tour with management. Having seen the impressive array of machines, clean rooms and other gear, we think the replacement cost would be well in excess of book value.
- There is contingent consideration of $2.0m (US$1.5m) potentially payable by UBI to Siemens on achievement of a certain milestone for Xprecia Stride. It is a current liability on UBI's balance sheet indicating that it is expected to be paid within 12-months.
- Accumulated accounting losses are $58.5m. So UBI will not be paying much tax for quite a while.

2. Development pipeline - What comes next?

UBI has an active R&D and new product launch program that we think will transform revenue and profit in coming years. We provide a brief update on each of the known projects UBI is working on (there could be others we are not aware of).

- **Sentia Wine Analyser** – The hand-held reader device and the first test for free sulphur (FSO2) were launched together in March this year. Tests for malic acid, G&F (glucose & fructose) are scheduled for completion and launch by December. Tests for acetic acid and total acid scheduled for 1HCY22. Each of these tests will use separate strips but work on the one device, enhancing the value proposition to the user. Winemakers we have spoken to said the malic acid test will be a game-changer, as most wineries do not have the capabilities on site to do this difficult test themselves, and external lab testing is expensive and adds a time delay to the process.
- **PT-INR (Blood coagulation device & test strips)** – A second generation replacement for the Siemens Xprecia Stride (XS) product is nearing completion, and should be ready for testing next year. Full US approval a priority. UBI is targeting a commercial product release in 3Q2022. (It needs to be launched by March 2023 when the Siemens minimum sales arrangement concludes). The global installed base of 120 hospitals and clinics using XS (> 3,500 installed base) are expected to upgrade to the new product.
- **Animal blood glucose monitoring** – Veterinary version under development based on the human version previously developed with LifeScan (previously a Johnson & Johnson subsidiary) for human diabetes monitoring. LifeScan paid UBI A$44.6m in December 2018 to buy out UBI's royalty stream. UBI has secured a new licence from LifeScan in December 2020 enabling it to enter the veterinary market (for dogs & cats) with a small royalty payable to LifeScan. UBI is targeting a product launch in 1HCY22. We are forecasting $3.0m of revenue in CY23 (first full year).

- **Cancer (Oncology)** – In April UBI acquired technology for the Tn Antigen biosensor, from Deakin University (DIFM), Swinburne University and University of Wollongong for the early detection, staging and monitoring of numerous types of cancers. More than 7 years of development work has already gone into the technology at the universities' labs. UBI has contracted DIFM Senior Fellow Dr. Wren Green, and Swinburne's Dr. Saimon Moraes DaSilva who will allocate 50% and 80% of their time to the collaboration and further development with UBI using UBI's commercial facilities at Rowville. UBI now owns the IP. We understand that UBI is working with its oncology partner the Peter MacCallum Cancer Centre in Melbourne and plans to commence clinical trials later this year, with cancer remission patients. (More on this below).
- **Lubricin – platform enhancer** – Also announced at the same time as the Tn Antigen sensor, (9/4/21) UBI has licenced on an exclusive basis, an innovative anti-fouling coating called Lubricin which when applied to UBI's electro-chemical biosensor technology, reduces interference and enhances sensitivity and detection limits massively (from micromolar to picomolar levels). This will enable UBI to detect analytes at levels not previously possible, and open up a raft of new or improved applications. UBI has flagged the following areas of interest and is looking to partner with others or consider acquisition opportunities to accelerate new product development:
- Human health (oncology, blood diseases, coagulation and fertility).
- Veterinary
- Food & beverages
- Environmental (arsenic, mercury, cadmium, lead, water quality, PFAS fire retardant contamination)
- Other areas (Covid-19???).

3. Tn Antigen Biosensor - Update

We reproduce below an update from the Deakin University website which explains the situation perfectly. The underlining is ours from a UBI investor perspective. We recently met Professor Wren at UBI's analysts and fund manager site visit on 22/6/21.

Date & Source: 16/6/21, www.deakin.edu.au/research/research-news-and-publications/articles/miracle-protein-biosensor-set-to-transform-early-cancer-detection

A commercialisation agreement for a high-tech biosensor is paving the way to improved diagnosis, monitoring and treatment for cancer patients around the globe. A world-first, point-of-care cancer sensor should be on the market within five years, thanks to ground-breaking science led by Deakin University researcher Dr Wren Greene.

Dr Greene and his colleagues have unlocked the potential of lubricin, a non-sticking "miracle protein" found in human joints, to reliably detect cancer – with outstanding potential for earlier treatment, better monitoring and improved long-term outcomes for cancer patients.

Dr Greene, Deakin's new Senior Universal Biosensors Fellow within the Institute for Frontier Materials, has worked with Professor Simon Moulton and Dr Saimon Silva of the School of Software and Electrical Engineering at Swinburne University, and colleagues at the University of Wollongong over the past five years to develop proof-of-concept research on detecting Tn Antigen. This is an O-glycan (chemical compound) rarely detected in healthy human tissue and expressed in about 80-90 per cent of cancers.

In fact, Tn Antigen is linked to the first mutation process of a healthy human cell as it becomes a cancer cell, making it an ideal indication of early cancer.

Deakin industry partner Universal Biosensors (UBI) formalised in April an exclusive license and supply agreement with US company Lubris BioPharma LLC, which synthetically produces lubricin at industrial scale, to develop the technology for market. UBI expects to invest up to $10 million to achieve commercialisation over the next five years.

UBI is a world leader in biosensing technology, having produced the most successful biosensor platform ever developed – a point-of-care electrochemical blood glucose test strip, now used in medical centres and healthcare clinics globally. John Sharman, UBI CEO, said the next step to developing a commercial cancer biosensor is to ensure the Tn biosensor can be reproduced on UBI's manufacturing line and measure reliably, using patients' whole blood.

"To be able to identify and measure, then monitor the rate of a healthy human cell becoming a cancer cell from a handheld, point-of-care biosensor device is an exciting prospect for UBI," Mr Sharman said.

"Putting aside the possibility for early screening and then staging of cancer from a handheld device, the blood testing market for the monitoring of cancer remission patients annually is estimated at $17 billion. It would be wonderful if the initiative could improve the lives of many of the 131 million cancer remission patients around the world."

The sensor will detect antigens/cancer cells and then measure cancer progression and metastatic potential – analysing a finger prick volume of blood in just seconds, like the blood glucose test. It will combine electrode technology with coatings of lubricin, which provides a firm coating on virtually any surface.

Found in healthy joints, lubricin naturally coats the cartilage surface, providing lubrication and preventing cell and protein adhesion. The ability of the lubricin coating to prevent unwanted adhesion of blood proteins to the electrode surface, which interferes with the electrochemical detection of analytes like Tn, is the secret to this new biosensor platform.

"Unlike other biochemical anti-adhesive coatings, lubricin has virtually no impact on electrical processes, enabling unprecedented sensitivities in raw, unprocessed bodily fluid samples," Dr Greene said.

"The sensor will be incredibly sensitive and will give people peace of mind. Current cancer tests are expensive and often only able to be conducted once or twice a year. This biosensor will allow more frequent testing, enabling much earlier diagnosis and, consequently, better prognosis for patients whose cancer has recurred. Ultimately, we expect it will also be used as a point-of-care diagnostic tool for first-time cancer diagnosis."

"This is very exciting. When lubricin is applied to an electrode in an electrochemical sensor, scientists get the same performance out of the electrode in blood as we would in clean water. Tn represents just the first analyte that we will apply to our lubricin biosensor platform, but the versatility of this sensor means that it can easily be applied to the diagnosis or monitoring of other medical conditions in the future."

UBI's John Sharman said that whilst the research and feasibility work has been successfully completed (which means UBI's time to market is significantly reduced) "UBI still must develop a commercial Tn Antigen biosensor on our hand-held platform ready for partnering or clinical trials".

The research represents the culmination of more than seven years of Australian Research Council (ARC)-supported innovation, through Dr Greene's and Professor Moulton's ARC Discovery project and Dr Greene's ARC DECRA Fellowship.

Dr Greene and team are also exploring other potential lubricin sensor applications, including for testing water quality, PFAS fire retardant detection and use in the food and beverage industry.

For more information, contact Dr Wren Greene, Institute for Frontier Materials.

What could this technology be worth?

The potential addressable market for monitoring cancer patients in remission is enormous (131 million patients worldwide per UBI).

- We have decided to add a nominal A$50m to our valuation of UBI (A$0.27 per share), as an initial conservative estimate of what the technology might be worth.

We found an interesting potential valuation comparable – A US listed genetic sequencing company called Illumina Inc (ILMN.O, market cap US$74.3bn, CY20 revenue US$3.2bn) is in the process of re-acquiring its former spin-out, Grail Inc for US$8.0bn (A$10.9bn). Grail was in the process of an IPO (proposed code: GRAL.O) when Illumina announced its move on 21/9/20. The deal is subject to regulatory approval and there have been objections from the FTC and European competition regulator, so it might not go through.

Company Description (source: Refinitiv): GRAIL Inc is a United States-based healthcare company. The Company focuses on developing new technologies for early cancer detection. By leveraging it's platform technology, the Company has developed a multi-cancer early detection blood test that has the ability to detect more than 50 types of cancer, across all stages, and localize the cancer signal from a single blood draw. The Company has developed multi-cancer early detection test, Galleri, which is designed as a screening test for asymptomatic individuals over 50 years of age. In addition to Galleri, the Company is utilizing it's technology platform and population-scale studies to introduce a diagnostic aid for cancer test (DAC). DAC is designed to accelerate diagnostic resolution for patients for whom there is a clinical suspicion of cancer. It is also developing a minimal residual disease (MRD) test, designed to enable blood-based detection with or without tissue.

According to its 2020 pathfinder prospectus (p.17), in CY19 Grail had nil revenue, spent US$159m on R&D and had a net loss of US$245m. At June 30 2020, it had cash of US$685.6m available. At 31 August 2020 it had 436 employees (p.36).

Update by Illumina 30/03/2021

SAN DIEGO--(BUSINESS WIRE) - Illumina, Inc. (NASDAQ: ILMN), today announced that it disagrees with, and will oppose, the U.S. Federal Trade Commission (FTC)'s challenge to its previously announced acquisition of GRAIL, a pre-commercial company founded to accelerate early screening of cancer. Illumina will pursue its right to proceed with the

transaction, the impact of which would accelerate the adoption of a breakthrough multi-cancer early detection blood test.

Cancer kills around 10 million people annually worldwide and 600,000 people in the United States alone. Survival rates are higher when cancer is detected early. Seventy-one percent of all deadly cancers do not currently have a screening test. GRAIL's Galleri test is able to detect more than 50 cancers across all stages, more than 45 of which do not have recommended screening in the United States. And, in 93 percent of the positive results, the test correctly identified the tissue of origin – all with a specificity greater than 99 percent.

Source: www.illumina.com

Implications for UBI

UBI is aiming to produce a hand-held portable detection device for use at the point of care. We understand that Grail is a laboratory-based product. Nonetheless, we expect significant valuation upside for UBI if the Tn Antigen biosensor can be proven and then commercialised because of the size of the addressable market. UBI has the credibility to develop such a product to commercial launch. The collaboration with Deakin University and Swinburne University of Technology adds further credibility, but it is still early days. We believe the product is still 3-5 years away from commercial launch.

4. Valuation

We have decided to add a nominal A$50m to our valuation of UBI (A$0.27 per share), as an initial conservative estimate of what the technology might be worth. This is the first time we have included the Tn Antigen technology in our valuation. We will update this as further information and reference points become available.

UBI: Sequoia Valuation	Comps Median Multiple	We Use	Valuation $m	Valuation Per Share $	Weighting
DCF valuation (10.1% WACC; 3.0% terminal growth; 25% tax rate FY26 on)			426.2	$ 2.28	33%
Comparable company's Valuation:					
FY23 EV / Sales multiples	6.1x	6.0x	187.7	$ 1.01	33%
FY23 EV / Ebitda multiples	25.2x	25.0x	182.8	$ 0.98	33%
Composite valuation			**265.3**	**$ 1.42**	**100%**
Blue sky valuation - Tn Antigen cancer biosensor (could be enormous) (Interesting comp: Grail Inc - being acquired by Illumina Inc for US$8.0bn / A$109bn)			**50.0**	$ 0.27	
Revised valuation			**315.3**	**$ 1.69**	
Shares on issue (Fully diluted)(m)		186.7			

Source: Sequoia estimates; Refinitiv consensus multiples for peers

As UBI is in the early stages of launching its new Sentia Wine Analyser product, and also in the early stages of expanding the distribution base for the Xprecia Stride coagulation product, and other new biosensor products under development and yet to launch, we think investors need to allow at least 2 years for UBI to achieve its growth. Accordingly, **we set a 24-mth price target** (rather than a one year target) **at $1.69 as calculated above.** We do not forecast a dividend for UBI for at least the next few years. **Our price target** implies a total shareholder return of around 113% over 2 years.

5. UBI - Risks Factors (from our 19/5/21 Initiation Report)

1. **Dual listed structure / CDIs / US centric reporting** – Because UBI is listed in Australia, and incorporated in Delaware USA, it has to comply with US SEC regulations. It prepares its accounts in US reporting format (e.g. SEC Form 10-k's for quarterly and annual results). Fortunately UBI reports in Australian dollars, but we find the US reporting format to be considerably different and difficult for Australian investors. For example, directors shareholdings and remuneration are not included in the Annual Report, but are provided in the AGM notice several months' later. Balance sheet and P&L have no references to notes to the accounts making navigation time consuming. We presume this structure was chosen originally with global ambitions in mind. We understand it is unlikely to change as there are A$28m of Australian tax losses & $0.9m CAD tax losses to protect and possibly recoup.
2. **New product launches / High risk / High reward** - UBI is effectively at the starting blocks again, with LifeScan buying out its interests in the very successful blood glucose monitoring business, and Siemens relinquishing the blood coagulation business having failed to achieve satisfactory market share against Roche. UBI now has control of that coagulation business, but needs to develop an improved version of Xprecia Stride by March 2023 to take on Roche successfully. UBI's other major opportunities are all start-ups – Wine Analyser, Animal blood glucose monitoring, and the cancer Tn test. There is a risk that UBI will not be able to create superior products. There is a risk that UBI will not be able to compete successfully against much larger, better funded, more established incumbents like Roche in coagulation, and Zoetis (Pfizer spin-out) in animal health. The portable wine analyser is a new product creating a brand new category to compete against bricks & mortar laboratories. There is a risk that the market may not accept UBI's innovative new products or their pricing.
3. **HRL Canada has a narrow customer base** – UBI's 4th product area, HRL performs mandatory calibration tests for the Siemens (now UBI controlled) coagulation business, Bayer, Abbott and Ionis. It was founded in 2016 and was loss-making when acquired by UBI in 2016 but the addition of the Siemens / UBI work put the business into profit in 2020 and it has since won $1.3m of initial work for Bayer. UBI has a strategy to grow this business which is complementary to UBI's other products / businesses, and to broaden its customer base. It is not yet a firmly established business in our opinion.
4. **Forecasting risk** – Obviously with 3 of UBI's 4 businesses/ products being new, there is a high risk of the actual revenue and profit results differing materially from our forecasts. We do not have much of a comparable history to guide us. Having multiple products coming on stream aimed at separate market segments does provide some diversification benefit and should in theory reduce risk going forward.
5. **New product risk** is partly mitigated by having 17 years' experience in electrochemical biosensors, and having $20m of net cash (including restricted cash) at end-June to see it through this new product launch and development phase.
6. **Selling & Distribution is new to UBI** – Excluding the small HRL calibration services business in Canada, UBI has historically serviced only two customers – LifeScan (Johnson & Johnson) and Siemens Healthcare Diagnostics. UBI is now required to service the Siemens client base (120 hospitals and distributors, mainly in Europe) and find new distribution partners and clients for all of its other products (i.e. Wine analyser, PT-INR blood coagulation product, Animal blood glucose test). UBI has already signed 10 new distribution deals for the Wine Analyser since early December 2020 and new CEO John Sharman has 10 years' experience managing large, medium and small distributors locally and overseas when he was CEO of Medical Developments International (MVP). So this should not be a major problem.

7. **Financing risk** – We expect UBI to become Ebitda and NPAT profitable in CY23. We also expect UBI to become cash flow positive in CY23.
8. **Key person risk** – UBI is a small company with just 60 staff (46 staff in Australia and 14 overseas). Accordingly, there is significant key person risk with such a small organisation. E.g. the CEO, CFO and product and technology heads.

6. Possible Share Price Catalysts

We identify the following possible share price catalysts for UBI:

1. **Sentia - Progress with distributors and customers in the global wine-making industry –** UBI has announced distribution partners for Australia, Canada, USA, NZ and South Africa. Further distribution deals are expected to be announced over the balance of 2021. Beyond these initial deals, we will look for evidence of on-going traction such as further device sales and accelerating consumables re-orders demonstrating traction with customers. Customer testimonials would be well received. Timing: 2H21.
2. **Sentia - New tests (products) for Sentia platform** – So far, UBI has only launched the "Free Sulphur Dioxide" test. 5 further tests are under development and expected to be launched over the next 12 months. These new tests will use different consumable test strips, but the same reading device. So the value to the winemaker should increase as more tests become available. Timing: Malic acid and G&F (glucose & fructose) 2H21; Acetic acid and Total acid 1H22.
3. **Tn Cancer biosensor** – Commencement of clinical trials, initially with cancer remission patients. Timing: late 2H21.
4. **PT / INR (coagulation tests) - New distributors -** Progress with expanding the distribution of the Xprecia Stride coagulation product, beyond Siemens' current customer and distribution base. Timing: Already underway.
5. **PT / INR (coagulation tests) – Next generation product** – Timing: Product completion, regulatory approvals and launch in 2022.
6. **Animal blood glucose monitoring – new product.** Timing: 1HCY2022.
7. Other new products we don't know about yet (e.g. IVF, Covid-19).
8. **Possible acquisitions –** With net cash of $20m currently, UBI is expected to consider further complementary partnerships or acquisitions, to accelerate its range of biosensor products and applications.

Sequoia Estimates

There are no changes to our estimates.

UBI - Sequoia forecasts summary	2020A	2021e	2022e	2023e	2024e	2025e
1. SENTIA WINE ANALYSER						
Sales - Test strips	0.0	0.5	4.6	11.9	20.1	30.1
Sales - Devices	0.0	0.9	1.3	1.8	2.3	3.1
Sales - Total product	**0.0**	**1.4**	**5.9**	**13.8**	**22.4**	**33.2**
Sales growth			317%	133%	63%	48%
Gross profit		**0.8**	**3.4**	**8.1**	**13.2**	**19.6**
Gross profit margin %		54%	58%	59%	59%	59%
2. HUMAN COAGULATION ANALYSER (PT-INR test)						
Sales - Xprecia Stride (old product sold by Siemens)(strips	2.6	4.0	2.0	0.0		
Sales - Xprecia Stride (old product sold by UBI)(strips only	0.0	0.0	4.0	8.0	0.0	
Sales - New product and brand expected 2023 (strips + de	0.0	0.0	0.0	1.0	10.0	12.0
Sales - Total product	**2.6**	**4.0**	**6.0**	**9.0**	**10.0**	**12.0**
Sales growth	-48%	56%	50%	50%	11%	20%
Gross profit	**0.9**	**2.4**	**3.6**	**5.4**	**6.0**	**7.2**
Gross profit margin %	33%	60%	60%	60%	60%	60%
3. ANIMAL BLOOD GLUCOSE MONITORING (Diabetes in animals)						
Sales - Test strips				2.4	5.4	9.0
Sales - Devices				0.6	1.2	2.1
Sales - Total product				**3.0**	**6.6**	**11.1**
Sales growth				n/a	118%	68%
Gross profit				**1.8**	**3.8**	**6.5**
Gross profit margin %				58%	58%	58%
4. HRL Canada (Calibration services)						
Sales - Services revenue	**0.6**	**2.0**	**2.2**	**2.4**	**2.7**	**2.9**
Sales growth	-69%	214%	10%	10%	10%	10%
Gross profit	**-0.2**	**0.6**	**0.8**	**0.9**	**1.1**	**1.3**
Gross profit margin %	-36%	30%	35%	39%	42%	46%
UBI TOTAL						
Product revenue (strips & devices)	2.6	5.4	11.9	25.8	39.0	56.3
Services revenue (HRL)	0.6	2.0	2.2	2.4	2.7	2.9
Total revenue	**3.2**	**7.4**	**14.1**	**28.2**	**41.6**	**59.2**
Sales growth	-54%	132%	90%	100%	48%	42%
Cost of product	-2.6	-3.7	-6.3	-12.0	-17.5	-24.6
Gross profit	**0.6**	**3.8**	**7.8**	**16.2**	**24.2**	**34.6**
Gross profit margin %	19%	51%	55%	57%	58%	58%

Source: Sequoia forecasts

Appendix 1 - Sentia – Wine testing platform (device + test strip consumables)

Product Description

Sentia is a hand held, portable testing device which UBI thinks will change the nature of laboratory testing in the wine making industry. The Sentia device, with its first test strip application, was released in March 2021.

Sentia measures the concentration of Free Sulphur Dioxide (Free SO2) in post-fermentation wine. It is called free SO2 because winemakers are only measuring the sulphur dioxide that has not bound with other chemicals in the wine (such as aldehydes, pigments, or sugars).

Sulphur dioxide is an additive used during the production of wine. In bottled wine, free SO2 acts as a preservative but there is a balance to strike: too much free SO2 can taint the consumer experience; too little could mean the wine spoils in the bottle. For this reason, measuring free SO2 is important to winemakers.

Further tests for use are currently under development by UBI and are expected to be released in the next 18 months. These will use the same reader device, but require different strips (consumables):

1. Free S02 (sulphur dioxide – launched March 2021)
2. Glucose & Fructose – expected launch Q4 2021
3. Malic acid - expected launch 1H2022 (was Q4 2021)
4. Total acid - expected launch 1H2022
5. Acetic acid - expected launch 1H2022

Measuring range: 3 to 50 mg per litre for free SO2 (which UBI says is within 2% of the $75k leading competitor product (Thermo Gallery which is the current industry gold standard).

Retail pricing for the reader device is approximately A$2,000 for domestic / US$2,000 (A$2,600) for USA and international and A$3.00 to $4.00 for each test strip. Different tests are expected to have varied pricing.

Advantages

- Time – on the spot results within 1 minute (Vs competitors at 10-20 mins, and external lab testing 2+ days).
- Accuracy & repeatability.
- Portability – genuine at the wine barrel testing.
- Efficiency / costs – improved processing efficiency and associated labour cost savings, and no internal or external lab costs.
- Quality – in-built quality control checks for each test.
- Convenience - No messy reagents. Automatically calibrated. Data automatically stored for upload.

Distribution

Ref	UBI - Sentia wine analyser - Distributor Distributor / Region	Date Announced	Website	Contact	Est. Staff
	Australia (exclusive)				
1	Grapeworks Pty Ltd Dingley, Melbourne	07-12-20	www.grapeworks.com.au	Malcolm Wilson (MD)	
	USA - East Coast				
2	Enartis Inc Windsor, Sonoma County, California & Trecate Italy	27-01-21	www.enartis.com	José Alberto Santo (CEO)	92
	USA - West Coast				
3	Wine & Beer Supply Ashland, Virginia	15-04-21	www.wineandbeersupply.co	Dave Robertson CEO	10
	Canada				
4	Vines to Vintages Pelham, Ontario	01-04-21	www.vinestovintages.ca	Natalie Spytkowsky (President)	5
	Chile				
5	Singularity SP	14-04-21			
	South Africa				
6	Vicard SA Cape Town	26-04-21	www.groupe-vicard.com	Michael Fernandes	
	New Zealand (exclusive)				
7	Grapeworks NZ	29-04-21	www.grapeworks.com.au	Malcolm Wilson (MD)	
8	**Switzerland**				
	XC Oenologie Sarl Cartigny, Geneva	07-06-21	www.xcoenologie.ch/	Xavier Chevallay (CEO)	4
9	**France & Italy**				
	Vinventions SA Thimister-Clermont, Belgium	07-06-21	www.vinventions.com	Denis Van Roey (CEO)	188
10	**Spain & Portugal**				
	Hernani, Spain	07-06-21	www.az3oeno.com/equipo-a	Inaki Kamio (Manager)	18

Source: UBI announcements; All deals are non-exclusive except Australia & NZ
Staff numbers from LinkedIn (may be under-stated, as not all staff members are likely to be on LinkedIn)

NB. Additional agreements to be announced for rest of world during CY2021 per UBI.

Total Addressable Market

If we assume that UBI can achieve a 20% market share, the wine analyser market could become a ~$100m per annum opportunity for UBI (see below). The hardware device and the first test (for free sulphur dioxide) have been launched, with 5 further tests to be developed and launched over the next 18 months.

UBI - Oenology - Revenue Scenarios to UBI	Retail Value (A$m) A & NZ	USA	RoW	Worldwide	Wholesale Value
Assumed 10% market share	3.8	16.7	64.1	84.6	50.8
Assumed 20% market share	7.6	33.5	128.1	169.3	**101.6**
Assumed 25% market share	9.6	41.8	160.2	211.6	126.9
Assumed 30% market share	11.5	50.2	192.2	253.9	152.3
Assumed 40% market share	15.3	66.9	256.3	338.5	203.1
Assumed 50% market share	19.1	83.7	320.3	423.1	253.9
100% market share (UBI estimated value)	**38.2**	**167.4**	**640.7**	**846.3**	**507.8**

Source: Sequoia calculations using UBI retail market value estimates

Our Forecasts

Based on the enthusiasm of the distributors announced so far, and the speed and size of their initial orders, we expect a fairly rapid take-up of this innovative new product by wine-makers, particularly the small to medium firms that probably don't have an in-house testing lab.

We forecast sales of $13.8m in FY23 (year 3), $33.2m in FY25 (year 5) and $88m in FY31 (for a 20% market share by year 10, not shown). We expect a strong gross profit margin in the 50-60% range.

Appendix 2: Free SO2 test Background

(Source: TerlatoWines.com)

Sulphur Dioxide (SO2) is the most common chemical compound used in winemaking. Its preservative and anti-bacterial qualities were discovered thousands of years ago, and because it is non-toxic it has been used in foods and wine since antiquity. Sulphur is naturally present on the grape skins, and though it is typically not enough to ensure against spoilage for winemaking purposes, it means that no wine is entirely sulfite-free.

SO2 is added periodically throughout the winemaking process and plays a critical role in quality winemaking. Sulphur serves two main purposes.

- It prevents the wine from reacting with oxygen which can cause browning and off-odours (oxidation),
- It inhibits the growth of bacteria and undesirable wild yeasts in the grape juice and wine.

The grapes are not rinsed before crushing because some of the grapes have already leaked juice and this would potentially dilute this high quality free-run juice. The unwashed skins have bacteria and wild yeast on them that can unpredictably influence fermentation and some winemakers therefore choose to use sulphur dioxide before they are loaded into the crusher / de-stemmer.

Sulphur may be added again at the time of racking or anytime the wine could potentially be exposed to oxygen. Because a small percentage of the population is potentially allergic to sulphur dioxide, winemakers are required by law to keep the levels of SO2 in their wines below 200 parts per million for dry wines (many wines have far less), and only a little higher for dessert wines. The laws have become more stringent with regards to admissible sulphur content in all food products, however, regardless of the international regulations, winemakers avoid the addition of sulphur because of its unpleasantly pungent smell and impact on the natural development of wine.

Without a complete understanding of the amount typically employed in winemaking and the reasons for its use, Americans have reacted strongly to sulphur content in wines as they have to any substances or foods that could potentially cause allergic reactions. For this reason "Contains Sulfites" is now required language on all wine labels sold in the US. Because all wines contain naturally occurring sulphur compounds, no other country, aside from Australia, has this requirement, and many, in fact, find this regulation laughable.

Source: https://www.terlatowines.com/knowledge/sulfur-dioxide-and-its-role-winemaking

Appendix 3: Measurement of Sulphur dioxide SO2 in Wine

This document gives a brief summary of the procedures and equipment requirements for some commonly used techniques for determination of the concentration of sulphur dioxide in wines. There are two main techniques that are used to measure the concentration of sulphur dioxide in wine. Automated systems are available and offer considerable benefits to laboratories that routinely analyse relative large numbers of samples.

Method 1: ASPIRATION/TITRATION (Rankine and Pocock)

Description: Sulphur dioxide is sparged from an acidified wine sample in an air stream and trapped in a solution of hydrogen peroxide which oxidises the sulphur dioxide to sulfuric acid. The sulfuric acid formed is then titrated with standardised sodium hydroxide, and the amount used is proportional to the amount of sulphur dioxide in the wine. Total SO2 is determined by heating an acidified sample during the aspiration step (Rankine and Pocock 1970).

- Equipment: 100 mL round bottom flasks, 2-necked pear-shaped flasks, condensers, retort stands, bunsen burners, flasks, burette.
- Reagents: Phosphoric acid solution, standardised sodium hydroxide solution.
- Services: Water supply, sink, natural gas supply, compressed air.
- Space required: Bench space

Method 2: REACTION / TITRATION (RIPPER)

Description:

The acidified wine sample is titrated with iodine in the presence of starch indicator so that when excess iodine appears in solution it turns blue as the end point. Total SO2 is determined by adjusting the sample pH to alkaline conditions and then incubating in the dark to release the bound fraction as free, which can then be determined. It should be noted that this technique is not commonly used in Australia and, in particular, many consider it to be of limited use in red wines.

- Equipment: Flasks, burette
- Reagents: Sulfuric acid solution, Standardised iodine solution
- Services: Wash-up area
- Space required: Bench space

Source: https://www.awri.com.au/industry_support/winemaking_resources/laboratory_methods/chemical/so2/

Appendix 4: Malic Testing

Malolactic fermentation (or secondary fermentation, MLF, ML or “Malo” for short), is the process in which malic acid in wine is converted to lactic acid. Mostly all red wines and various white wines go through ML after the initial fermentation is complete. Contrary to regular or primary fermentation (where yeast converts sugar into alcohol), ML is caused by the bacteria *oenococcus oeni*. While ML occurs naturally, wines are often inoculated with the bacteria culture to kick-start the process. Malolactic fermentation softens the taste and texture of the wine, adds complexity and character, and stabilizes wines prior to bottling.

Malic acid is the tart acid in grapes also found in green apples. Lactic acid, on the other hand, is the more creamy acid found in milk, cheese, and yogurt. Chardonnay is a classic example where the fuller mouth-feel and creamy texture is the direct result of malolactic fermentation and barrel aging. The buttery flavour in many chardonnays comes from a compound called diacetyl, which is derived from the ML process.

For crisp whites that do not benefit from ML such as Riesling and Gewürztraminer, ML is prevented through chilling, filtering, and/or adding of fining agents or enzymes. Even some chardonnay producers prefer a crisp style, skipping the barrels and fermenting entirely in temperature controlled tanks to keep the wine light and fruity. Occasionally, the two styles are combined and tank wine is blended with wine that has gone through ML in barrel. This results in a wine with both crispness and nuance of butter and toasty oak.

Red wines - prior to malolactic fermentation, tend to be harsh and astringent on the palate. After the malic acid is converted to lactic, the wine becomes noticeably softer and more approachable. Wines are perceivably heavier and rounder on the palate and will continue to gain weight through the aging process.

The status of the MLF in a wine must be monitored quite attentively. To check if ML is working, we literally put our ear to an open barrel and listen for CO2 bubbles being released. The crackling sound lets you know that the wine is alive and well. Once the bubbles have ceased, wines are checked in the lab for acid levels. When ML is finished and all of the malic acid has been consumed, S02 (sulphur) can now be added to help preserve the wine and minimize microbial activity.

Source: https://www.winc.com/blog/malolactic-fermentation-simplified

Universal Biosensors Inc (UBI) **$ 0.795**

Profit & Loss

Years ended Dec $m	FY19	FY20	FY21e	FY22e	FY23e
Op. Revenue	6.9	3.2	7.4	14.1	28.2
Revenue growth %	-72.2%	-53.6%	131.5%	90.2%	100.0%
Cost of Goods Sold	(3.6)	(2.6)	(3.7)	(6.3)	(12.0)
Gross Profit	**3.3**	**0.6**	**3.8**	**7.8**	**16.2**
Gross Profit Margin	48.2%	19.5%	50.7%	55.1%	57.3%
Other Income	4.2	4.1	2.9	2.0	2.0
Cash Operating Expenses	(13.0)	(10.8)	(10.8)	(11.0)	(11.3)
Share-based payments	0.4	(0.2)	(0.1)	(0.2)	(0.3)
EBITDA	**-5.0**	**-6.2**	**-4.2**	**-1.4**	**6.6**
Ebitda Margin	-72.6%	-194.3%	-57.2%	-9.8%	23.3%
Depreciation & Amort	(1.2)	(2.2)	(2.1)	(2.3)	(2.6)
EBIT	**-6.2**	**-8.5**	**-6.4**	**-3.7**	**4.0**
Ebit Margin	-89.4%	-263.9%	-85.7%	-26.3%	14.2%
Interest Income (Expense)	0.0	0.1	0.0	0.0	0.0
Share of Assoc NPAT	0.0	0.0	0.0	0.0	0.0
Pre-tax profit	**(6.2)**	**(8.3)**	**(6.4)**	**(3.7)**	**4.0**
Income Tax Credit (Expense)	1.3	0.0	0.0	0.0	0.0
Tax Rate	-21.4%	0.0%	0.0%	0.0%	0.0%
Minorities (share of loss)	0.0	0.0	0.0	0.0	0.0
Abnormals	0.0	0.7	0.0	0.0	0.0
NPAT (reported)	**-4.8**	**-7.6**	**-6.4**	**-3.7**	**4.0**
Adjustments (Abnormals)	0.0	-0.7	0.0	0.0	0.0
NPAT (normalised)	**-4.8**	**-8.3**	**-6.4**	**-3.7**	**4.0**

Balance Sheet

Cash	37.2	28.1	18.1	15.8	22.7
Receivables	0.1	0.1	0.6	1.1	0.2
Inventories	1.1	1.9	2.0	2.7	5.4
Other	3.6	3.7	4.8	4.8	4.8
Total current assets	**42.0**	**33.7**	**25.4**	**24.4**	**33.1**
PP&E	4.8	8.4	9.0	10.2	11.5
Invests (Restricted cash)	0.0	0.0	0.0	0.0	0.0
Intangibles	15.9	14.3	14.3	15.1	15.9
Deferred tax assets	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0
Total non-current assets	**20.7**	**22.7**	**23.3**	**25.3**	**27.4**
Total Assets	**62.7**	**56.4**	**48.7**	**49.6**	**60.5**
Payables	-1.6	-1.6	-2.0	-3.8	-7.6
Interest bearing liabs -current	0.0	-0.5	-0.6	-0.6	-0.6
Deferred revenue - current	-2.7	-1.6	0.0	0.0	0.0
Provisions	-0.8	-0.6	-0.6	-0.6	-0.6
Other	-5.1	-4.6	-5.6	-1.4	-1.4
Total Current Liabilities	**-10.2**	**-9.0**	**-8.9**	**-6.4**	**-10.2**
Interest-bearing liabs (Non-curre	0.0	-3.6	-3.6	-3.6	-3.6
Deferred revenue (non-current)	-1.4	0.0	0.0	0.0	0.0
Provisions	-2.6	-2.8	-2.8	-2.8	-2.8
Other	-3.1	-3.1	-4.0	-11.1	-14.2
Total Non-current Liabilities	**-7.1**	**-9.4**	**-10.4**	**-17.5**	**-20.6**
Total Liabilities	**-17.3**	**-18.4**	**-19.3**	**-23.9**	**-30.8**
Total Shareholders' Equity	**45.4**	**38.0**	**29.4**	**25.7**	**29.7**

Interims

Year end June	1H20	2H20	1H21	2H21e	FY21e
Sales	**1.1**	**2.1**	**3.4**	**4.0**	**7.4**
Sales Growth (%)	-73%	-27%	219%	88%	132%
EBITDA profit (loss)	**-4.1**	**-2.1**	**-2.1**	**-2.1**	**-4.2**
EBITDA Margin	-388.3%	-97.9%	-62.0%	-53.2%	-57.2%
EBIT	**-5.3**	**-3.2**	**-3.2**	**-3.2**	**-6.4**
Equity Share of Assocs NPAT	0.0	0.0	0.0	0.0	0.0
NPAT (Reported)	-4.5	-3.1	-3.2	-3.1	-6.4
NPAT (Adjusted)	**-5.1**	**-3.2**	**-3.2**	**-3.1**	**-6.4**
EPS (adjusted)(cents)	**-2.9**	**-1.8**	**-1.8**	**-1.6**	**-3.4**
EPS Growth	128.0%	22.6%	-37.4%	-11.1%	-27.3%
DPS (cents)	0.0	0.0	0.0	0.0	0.0

Source: Sequoia estimates

Per share & Ratio data

Years ended Dec	FY19	FY20	FY21e	FY22e	FY23e
Shares on Issue - Wavge (f/d)	177.5	177.6	186.7	186.7	186.7
Shares on Issue - at y/end	177.6	177.6	177.6	177.6	177.6
EPS - Reported (cents)	**(2.7)**	**(4.3)**	**(3.4)**	**(2.0)**	**2.2**
Growth	-112.9%	57.5%	-20.9%	-41.7%	-208.5%
P/E ratio (x)	-29.1x	-18.5x	-23.4x	-40.1x	36.9x
EPS (normalised)(cents)	**(2.7)**	**(4.7)**	**(3.4)**	**(2.0)**	**2.2**
Growth	7.6%	71.4%	-27.3%	-41.7%	-208.5%
P/E ratio (x)	-29.1x	-17.0x	-23.4x	-40.1x	36.9x
DPS (cents)	0.0	0.0	0.0	0.0	0.0
Yield	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
OCF per share (cents)	18.7	-4.7	-4.8	-0.5	4.6
Price/OCF (x)	4.2x	-17.0x	-16.4x	-174.9x	17.3x
Enterprise Value $m	108.6	118.6	127.3	129.7	122.7
EV/ Sales	**15.7x**	**37.0x**	**17.2x**	**9.2x**	**4.4x**
EV/EBITDA	-21.7x	-19.1x	-30.0x	-93.9x	18.7x
EV/EBIT	-17.6x	-14.0x	-20.0x	-35.0x	30.5x
Liquidity & Leverage					
Net Cash (Debt) $m	37.2	23.9	13.9	11.5	18.5
Net Debt / Equity %	n/a	n/a	n/a	n/a	n/a
Net Debt / EBITDA	n/a	n/a	3.3x	8.3x	n/a
ROA (EBIT / T.Assets) %	-9.8%	-15.0%	-13.0%	-7.5%	6.6%
ROE (NPAT / T.Equity) %	-10.7%	-21.9%	-19.6%	-12.9%	12.3%

Cash Flow

EBITDA	-5.0	-6.2	-4.2	-1.4	6.6
Chge in Working Capital	47.3	-3.3	-1.8	0.5	2.0
Interest Received (Paid)	0.0	0.1	0.0	0.0	0.0
Income taxes paid	-4.4	0.0	0.0	0.0	0.0
Other	-4.7	1.1	-3.0	0.0	0.0
Operating cash flows	**33.2**	**-8.3**	**-9.0**	**-0.8**	**8.6**
Capex	-0.1	-0.4	-0.9	-1.5	-1.6
Acquisitions	0.0	0.0	0.0	0.0	0.0
Investments	0.0	0.0	0.0	0.0	0.0
Other (Capitalised R&D)	-10.1	0.0	0.0	0.0	0.0
Net investing cash flows	**-10.3**	**-0.4**	**-0.9**	**-1.5**	**-1.6**
Equity raised (bought back)	0.0	0.0	0.0	0.0	0.0
Dividends paid	0.0	0.0	0.0	0.0	0.0
Change in Debt	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0
Financing cash flow	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Change in Cash	**23.0**	**-8.6**	**-9.9**	**-2.3**	**7.0**

Revenue by Product

Blood Glucose(sold Dec18)	0.2	0.0			
Blood Coag (PT-INR tests)	4.9	2.6	4.0	6.0	9.0
Sentia Wine Analyser	**0.0**	**0.0**	**1.4**	**5.9**	**13.8**
Animal blood glucose	0.0	0.0	0.0	0.0	3.0
Services - HRL Canada	1.1	0.6	2.0	2.2	2.4
Services - Contract R&D / C	0.8	0.0	0.0	0.0	0.0
Total Revenue	**6.9**	**3.2**	**7.4**	**14.1**	**28.2**

Directors Shareholdings	Shares (m)	% of coy	Options (m)
Craig Coleman, Chairman (app NED 30/6/16, Chair 7/8	27.466	15.5%	0.0
Judith Smith, NED (appointed: 12/3/15)	0.300	0.2%	0.0
David Hoey, NED, overseas-based (appointed 2/3/16):	0.566	0.3%	0.0
Senior Management:			
John Sharman, CEO (commenced 8/6/20)	0.000	0.0%	7.1
Salesh Balak, CFO (commenced Nov 2006)	0.267	0.2%	1.5

Major Shareholders	Shares (m)	% of coy
Viburnum Funds	27.250	15.3%
JM Financial Group Ltd	21.968	12.4%
Jencay Capital Pty Ltd	18.820	10.6%
Richmond Hill Capital Pty Ltd (2 mgrs ex Viburnum Fur	8.370	4.7%
KFT Investments Pty Ltd	7.430	4.2%

Source: ASX announcements, Refinitiv

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Buy	Accumulate	Hold	Reduce	Sell
>20%	10% – 20%	0% – 10%	0% to -10%	>-10%

A Speculative recommendation is when a company has limited experience from which to derive a fundamental investment view.

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