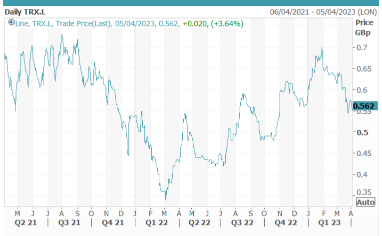
5 April 2023

Pharmaceuticals & Biotechnology



Source: Refinitiv

Market data

EPIC/TKR	**TRX**
Price (p)	**0.55**
12m high (p)	0.70
12m low (p)	0.42
Shares (m)	7,033
Mkt cap (£m)	38.7
EV (£m)	41.6
Free float*	62%
Reporting currency	USD
Country of listing	UK
Market	AIM

**As defined by AIM Rule 26*

Description

Tissue Regenix (TRX) is a global medtech company in the field of regenerative medicine, with two platform technologies, dCELL®, addressing soft tissue needs, and BioRinse®, providing sterile bone allografts. These unique processing technologies retain the inherent properties of animal/human tissue and bone, leaving safe and sterile scaffolds that can be used to repair diseased or degenerated body parts.

Company information

CEO	Daniel Lee
CFO	David Cocke
Chair	Jonathan Glenn

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www.tissueregenix.com

Key shareholders

Directors	1.1%
Harwood Capital	15.7%
R. Sneller (Inthallo)	12.0%
R. Griffiths	11.0%
Lombard Odier	9.3%
IP Group	9.3%

Diary

27 April	AGM

Analyst

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Dr Martin Hall
mh@hardmanandco.com

TISSUE REGENIX

Turning profitable and cash-generative

TRX is focused on the development and commercialisation of two proprietary processing technologies for the repair of soft tissue (dCELL®) and bone (BioRinse®). It has a broad portfolio of regenerative medicine products for the biosurgery, orthopaedics and dental markets. 2022 results highlighted the benefits from recent investment in capacity and commercialisation, with the company turning EBITDA-positive in 4Q'22. Further strong growth is expected in 2023, with TRX becoming cash-generative and nearing profitability. Additional operating efficiencies have been identified, moving Phase 2 of the capacity expansion programme into 2025.

- **Strategy:** TRX is building an international regenerative medicine business around its proprietary technology platforms, underpinned by compelling clinical outcomes. Phase 1 of its manufacturing capacity expansion programme came on stream in 2021 to satisfy demand from distribution partners for its innovative products.

- **2022 results:** Underlying sales rose 26%, to \$24.5m (\$19.8m), with growth being seen in all three divisions. Operating efficiencies and tight cost control saw TRX become EBITDA-positive in 4Q'22. Gross cash at the period-end was \$5.95m, and the revolving debt facility has been doubled, to \$10m.

- **Outlook:** Management will continue to build on its "4S" strategy to drive sales growth and sustainability. While continuing to drive the performance in the US, TRX is looking to extend its geographical reach through commercial distribution agreements elsewhere, making the company profitable and cash-generative.

- **Risks:** The prolonged effects of the pandemic are evident in the number of elective procedures, staff shortages in healthcare institutions and supply chain issues, although investment in capacity by TRX has mitigated some of these risks. Also, TRX will not be immune from global economics and wage inflation.

- **Investment summary:** Turning EBITDA-positive in 4Q'22 was a major milestone, and the leverage effect of expected sales growth in 2023 will become more apparent, highlighting the low rating on the shares. An EV/sales multiple of 4x 2024E sales generates a valuation of \$139m/£112m. The board is proposing a 1-for-100 share consolidation to make the shares less unwieldy and to increase their attractiveness to investors.

Financial summary and valuation

Year-end Dec (\$m)	2019	2020	2021	2022	2023E	2024E
Sales	16.66	16.47	19.75	24.48	29.05	34.70
Underlying EBITDA	-8.17	-3.20	-3.00	-0.88	0.27	2.61
Underlying EBIT	-9.22	-4.26	-4.10	-2.01	-0.91	1.43
Statutory EBIT	-9.24	-12.58	-4.45	-2.01	-0.91	1.43
Underlying PBT	-9.68	-4.82	-4.79	-2.83	-1.76	0.68
Statutory PBT	-9.70	-13.15	-5.14	-2.83	-1.76	0.68
Underlying EPS (¢)	-0.78	-0.09	-0.07	-0.04	-0.02	0.01
Statutory EPS (¢)	-0.78	-0.28	-0.07	-0.04	-0.02	0.01
Net cash/(debt)	0.12	5.75	-0.24	-3.66	-3.39	-3.27
Equity issues	0.00	18.67	0.00	0.01	0.00	0.00
EV/sales (x)	3.3	3.3	2.7	2.2	1.9	1.6
EV/EBITDA (x)	-	-	-	-62.0	203.0	20.8

Source: Hardman & Co Life Sciences Research

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2022 results summary

Strong 2022 results

On 31 January 2023, TRX informed the market, with a trading update, that underlying sales had increased 26% in 2022, and that the gross cash position was $5.95m. Consequently, for comparative purposes, results have been compared with our previously published forecasts prior to that announcement.

Key features

Operational and commercial

- **OrthoPure XT:** Distribution agreements were signed during the period for Italy and Germany, and an initial stocking order represented first sales of this product. Further deals have been signed post the period-end for China and Hong Kong.
- **Efficiencies:** Proof of the benefits of the Phase 1 investment programme were seen in 124% more donors being sourced and increased processing efficiencies being identified, able to generate $10m of additional sales. Increased efficiencies have moved the commencement of Phase 2 expansion into 2025.
- **dCELL:** Benefits from the commercial reorganisation of the dCELL division were seen in the renewed sales growth, helped by the addition of 41 new distributors being hired and trained, against a plan for 32 new hires.

Financials

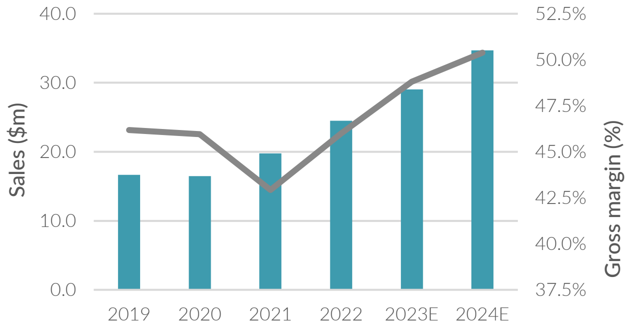
- **Sales:** Underlying group sales rose 26%, to $24.5m ($19.8m in 2021), slightly ahead of our original forecasts. Strong growth was seen in all three divisions: the BioRinse range (+26%, to $16.1m, from $12.7m in 2021); dCELL products (+25%, to $5.3m, from $4.3m); and GBM-V (+26%, to $3.1m, from $2.8m).
- **COGS:** The change in product mix, a modest price rise in 1Q'22 and increased efficiencies resulted in a drop in COGS, with the gross margin rising from 42.9% to 46.0%, despite a one-off hit being taken in the dCELL range.
- **Administration costs:** Underlying SG&A and central costs, excluding the share-based payments, increased 4.5%, to $13.0m. Notwithstanding the general economy and wage inflation, SG&A is expected to rise at a lower rate than sales.
- **Net cash/(debt):** TRX ended the period with gross cash of $5.95m and net debt of $3.66m (including lease liabilities of $3.4m). TRX has increased financial flexibility with a doubling of its credit facility to $10.0m through to 2028.

Results summary – actual vs. expectations

Year-end Dec ($m)	2021 actual	2022 actual	Growth CER	2022 *forecast	Delta Δ
BioRinse	12.71	16.05	+26%	16.40	-0.35
dCELL	4.25	5.30	+25%	4.90	+0.40
GBM-V	2.79	3.13	+24%	3.00	+0.13
Group sales	**19.75**	**24.48**	**+26%**	**24.30**	**+0.18**
COGS	-11.27	-13.22	+17%	-13.13	-0.09
SG&A	-12.46	-13.02	+5%	-12.95	-0.07
Share-based costs	-0.11	-0.25	-	-0.20	-0.05
Underlying EBITDA	-3.00	-0.88	+71%	-2.65	+1.77
Underlying EBIT	**-4.10**	**-2.01**	**+51%**	**-1.98**	**-0.03**
Gross cash	7.71	5.95	-	5.24	+0.71
Net cash/(debt)	**-0.24**	**-3.66**	**-**	**-2.50**	**-1.16**

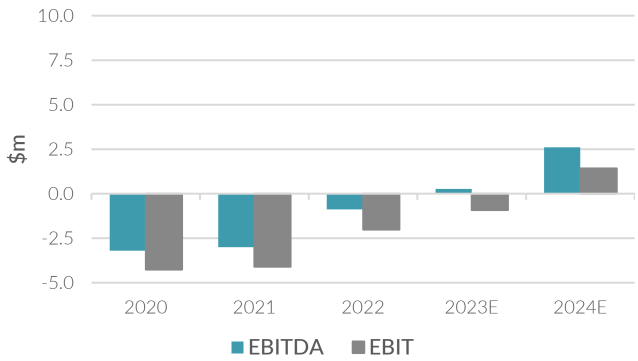
**As previously published in report dated 27 September 2022*
Note: numbers may not add up exactly, due to change in reporting currency and rounding
Source: Hardman & Co Life Sciences Research

Sales and gross margin



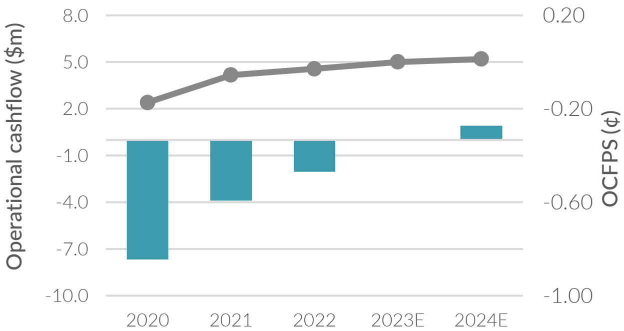
- Increased sources of tissue and processing capacity, coupled with strong demand, are generating strong sales growth across all divisions.
- Continued recovery in elective surgeries provided strong momentum to dCELL sales.
- Gross margins returned to pre-pandemic levels, despite a one-off provision, due to the termination of a supply contract.

EBITDA and underlying EBIT



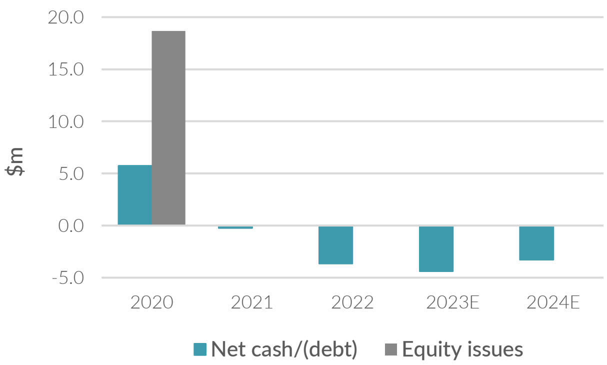
- Major milestone achieved in 4Q'22, when the company turned EBITDA-positive.
- We forecast TRX to be EBITDA-positive for the full year in 2023.
- On our current forecasts, TRX will become EBIT-positive in fiscal 2024.
- The leverage effect of $0.6m of additional sales would make TRX EBIT-positive in 2023.

Operational cashflow and OCFPS



- There has been a positive trend in the rate of cash burn over the past three years.
- In the event that elective surgeries return to pre-pandemic levels at a faster rate, there would be a significant leverage effect on cashflows.

Net cash/(debt) and equity issues



- TRX has raised $134m/£103m from investors since inception, the latest being $18.7m/£14.6m gross capital in 2020 to invest in capacity expansion.
- Gross cash at 31 December 2022 was $5.95m, which is also supported by a revolving credit facility of $10.0m.
- Our forecasts suggest that TRX has sufficient cash to deliver the current business plan.

Source: Company data, Hardman & Co Life Sciences Research

Operational overview

4 "S" strategy bearing fruit

2022 results showed further progressive development of the company's "4S" strategy. This strategy has been highlighted in our four previous reports on TRX. Its aim has been to develop a strong commercial strategy to create solid relationships with major distributors, thereby creating good underlying demand for products. This necessitated the reorganisation of its operations and investment into capacity expansion at its US facilities. All of this came together in 2022, as shown with the good results, and clearly shows the benefits of this strategy.

"4S" strategy

For the past three years, TRX's "4S" strategy has been the foundation of the business plan to drive sales and grow. As a reminder, it is based on the following characteristics:

- **Supply:** Highlighted by the fundamental ability to source donor tissue and having the capacity to process it and produce differentiated graft products.
- **Sales:** To distribute the finished grafts and scaffolds to clinicians and institutions that need these products to treat patients.
- **Sustainability:** To manage sales and costs to generate a profitable entity that does not need additional external capital to operate.
- **Scale:** To utilise the first three S's to continue to invest in and grow the business, and to license or acquire new products, technologies and companies.

Highly regulated market with big barriers to entry

TRX operates in a highly regulated market with enormous barriers to entry. Some of the large, commercial operators do not want to get involved in the complexities associated with the supply of human tissue, preferring to leave this to specialists. But they do need certainty of supply of quality products. This has been an area for key investment by TRX. Over the past two years, the company has been building an even stronger relationship with tissue banks that are governed in the US by the National Organ Transplant Act (NOTA), in order to ensure adequate supplies of high-quality human tissue – such as bone, soft tissue and birth tissue.

Progress with the four "S's"

Source: TRX presentation

As proof of the improved supply, in 2022, TRX sourced 124% more donors overall. Owing to fluctuating demands, capacity was shifted to *dermis* and *amnion*, with processing increasing by 135% and 130%, respectively. As a consequence, processing of musculoskeletal donors was lower in 2022.

Increased confidence

Customer confidence in ability to supply in timely manner

Phase 1 of the capacity expansion programme has given customers confidence that TRX can supply the required quality of the right product in a timely manner. 2022 was characterised by improved service levels with its commercial partners and distributors, and being able to adjust the supply chain to unanticipated customer needs in half the amount of time compared with before. This has also enabled TRX to expand the number of distributors and national coverage in the US at a much faster-than-anticipated rate.

Geographical expansion

Potential to expand into non-US markets…

Now the aim is to expand selectively on a geographical basis. To that end, in March 2022, TRX signed an agreement with Geistlich Biomaterials Italia, a subsidiary company of Geistlich Pharma AG, which included a commitment to advance the clinical science for OrthoPure XT. This product was launched in Italy, and initial feedback has been positive. In November 2022, TRX signed an exclusive distribution agreement with 2Med GmbH for Germany, and an initial stocking order was filled.

…with deal already signed for China and Hong Kong

Post year-end, an exclusive distribution agreement for OrthoPure XT into China and Hong Kong was signed with Kingsung Medical Group (Kingsung). Kingsung will be responsible for, and share the cost of, obtaining regulatory approval in China, where the current market for ligament reconstruction procedures is estimated at 200k-250k procedures p.a., and growing.

Improved efficiency

Identification of additional efficiencies has moved start date for Phase 2 of capacity expansion into 2025

With the Phase 1 expansion programme complete and fully operational, the addition of the two sterile packaging rooms has realised some unanticipated gains to TRX's overall capacity for processing and production. This additional capacity has provided greater flexibility in terms of how the company can schedule processing and production, with the prospect of adding up to $10m to sales, and effectively delaying the need for the planned 10 additional clean rooms in Phase 2 of the capacity expansion from 2024 into 2025.

Trend towards EBITDA-positive

EBITDA-positive in 4Q'22…

…expected to follow-through into full-year 2023

A combination of the 26% underlying sales growth and tight control of the cost base resulted in TRX achieving a major milestone by becoming EBITDA-positive in the last quarter of 2022. Indeed, adding back the dCELL one-off provision, the company was also EBITDA-positive for 2H'22. Although an element of the sales growth in 2022 was associated with some catch-up after the pandemic, underlying group sales are still expected to grow ca.20% in 2023. This is forecast to be sufficient for TRX to become EBITDA-positive for the full year, notwithstanding the global economic pressures on wage inflation.

Additional sales of only $0.6m to become EBIT-positive in 2023

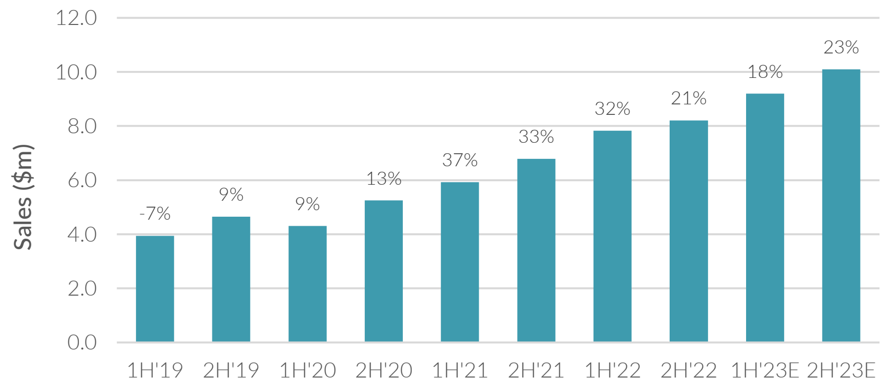
However, based on current forecasts, TRX is not expected to report an operating profit until fiscal 2024, but it is close, needing only an extra $0.6m of sales for any reason to move the group into profitability in 2023, such is the leverage effect of those increased sales.

BioRinse

Strong upward momentum

Given its source material, diverse range of differentiated bone scaffold products and strong commercial partners, BioRinse was always expected to be the first division to benefit from Phase 1 of the investment programme to increase tissue storage and processing capacity. This has been borne out by results from the last four six-month reporting periods, with sales growth rates as follows: 1H'21 +37%, 2H'21 +33%, 1H'22 +32%, and 2H'22 +21%. TRX's distributors and strategic commercial partners clearly have confidence in the superior performance of BioRinse products and the ability of TRX to supply them in a timely manner.

Half-yearly performance in BioRinse sales, 2019-23E



Source: Hardman & Co Life Sciences Research

Slight seasonal effect on growth rates

Overall, in 2022, BioRinse sales increased 26%. Given the strong growth rate seen in the previous four six-month periods highlighted above, the 21% sales growth in 2H'22 was lower than anticipated. Having said that, for the past two years, the growth in BioRinse sales has been stronger in 2H versus 1H, indicating that there may be a seasonal trend for these products.

- Growth was led by ConCelltrate, a demineralised bone matrix, and AmnioWorks' birth tissue product families.
- The top five product families in the BioRinse portfolio all grew sales by greater than the 18% divisional average growth rate, which was considerably above the market average growth rate.
- Growth has been supported by industry reputation and commercial partner confidence across all its surgical specialties – orthopaedics, sports medicine, spine, dental and trauma.
- Some new partnerships were added during 2022, which are expected to help drive growth in 2023 and beyond.
- With the additional capacity and smooth running of operations, management is looking to expand the BioRinse offering into a select band of other countries in 2023. To that end, TRX engaged a third-party logistics partner and began the required regulatory approval processes for expansion into Europe.

Growth rate is all volume

Any price rise would be additive

For 2023, we are anticipating an overall growth rate of 18%. This is all volume. In the event that TRX were able to introduce a price increase, this would be additive to growth. We expect further leverage in the BioRinse division, as sales expand.

dCELL

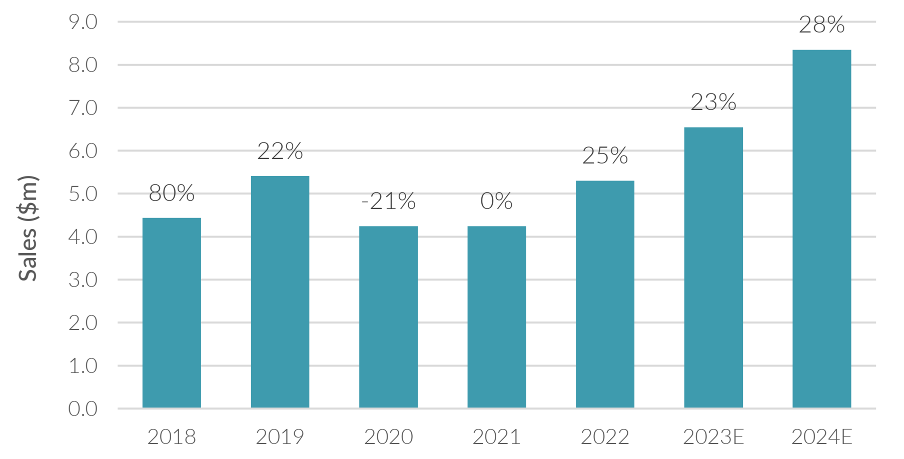
Benefits from reorganisation and capacity expansion showed in 2H'22

In the first year following completion of Phase 1 of the capacity expansion programme, the existing demand for BioRinse products and distribution partnerships meant that there was a natural underlying benefit for this division. In contract, reorganising the dCELL division took a little longer for the benefits to emerge. This became apparent in 2H'22, with dCELL sales rising by an exceptional 35%, giving an overall rate of sales growth of 25% for the full year.

Attractive offering enticing more distributors

As highlighted at the interim stage, during the early months of 2022, management undertook a programme to reorganise the dCELL commercial team and strategy, in order to position products for a recovery in elective surgeries, which were severely curtailed during the pandemic lockdown. In addition, a key objective was to increase the distribution footprint in areas where TRX had established business, with the aim of adding 32 more distributors. This goal was exceeded, adding 41 distributors by the end of December 2022.

Sales performance of dCELL, 2018-24E



Source: Hardman & Co Life Sciences Research

Strong sales growth in 2022 was driven by:

- Increased market penetration of the original DermaPure.
- Sales of the broader size range of non-orientated DermaPure, which gives surgeons more options and flexibility.
- Increased utilisation of the pre-shaped VNEW product.
- Initial contribution from OrthoPure XT, the only non-human biologic tissue graft available for anterior cruciate ligament reconstruction, which was introduced into Italy and Germany in 2022.

Approaching profitability

Improving underlying gross margin moving dCELL towards profitability

The dCELL gross margin dropped significantly in 2H'22, falling from 44.4% in 1H'22 to 26.3% in 2H'22. However, this was due largely to a one-off provision of $0.45m related to the termination of a supply contract. Excluding this, the underlying gross margin in 2022 rose from 40.5% to 42.8%.

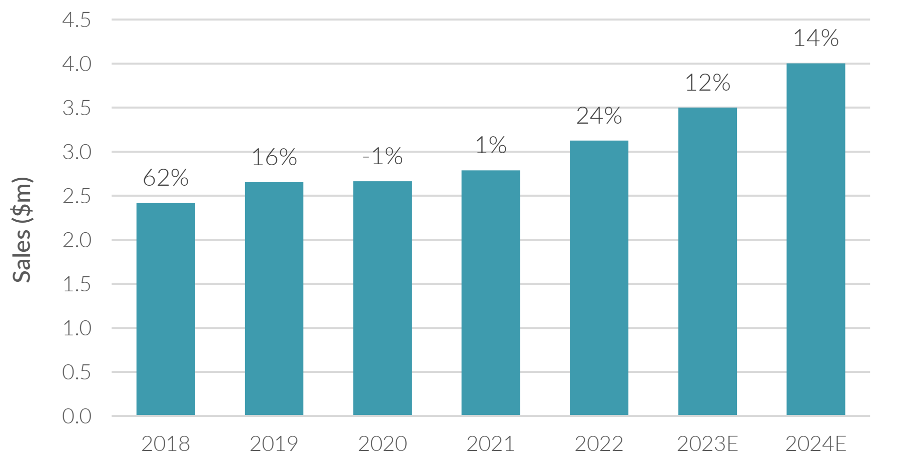
However, even excluding this one-off charge, the dCELL division generated a loss of ca.$0.55m in 2022. Continued investment in products and commercial activities are expected to result in a small loss in 2023, but then turning profitable in 2024, due to the leverage effect of increased sales.

GBM-V

Improved supply of tissue

The strong recovery in GBM-V sales reported at the interim stage continued through the rest of 2022. A combination of increased supply of corneal tissue and improvements in the yield resulted in a record year of distributed corneal grafts by GBM-V, with underlying sales rising 24%, to a reported figure of $3.1m, which was dented by weak forex.

Sales performance of GBM-V, 2018-24E



Source: Hardman & Co Life Sciences Research

Administration costs were equally affected by forex, such that this 50%-owned JV made a small positive contribution to operating costs.

Growing and profitable

Now that the boost from increased tissue supply is in the system, sales growth is expected to revert back to low double-digit growth in each of the next three years, with a corresponding modest increase in profitability.

Performance of GBM-V

Year-end Dec ($m)	2019	2020	2021	2022	2023E	2024E
Sales	2.65	2.66	2.79	3.13	3.50	4.00
COGS	-1.79	-1.59	-1.89	-1.96	-2.10	-2.36
Gross margin	*32.4%*	*40.4%*	*32.4%*	*37.5%*	*40.0%*	*41.0%*
SG&A	-1.27	-1.42	-1.06	-0.76	-0.84	-0.86
EBIT	**-0.41**	**-0.34**	**-0.15**	**0.41**	**0.56**	**0.77**

Source: Hardman & Co Life Sciences Research

Other matters

Revolving credit facility

Greater financial flexibility

TRX has borrowings of $6.26m through is debt facility with MidCap, and lease liabilities of $3.35m for its manufacturing facilities and office space in San Antonio. To provide the company with additional flexibility, in January 2023, TRX announced that it had increased its revolving debt facility from $5.0m to $10.0m, although management stressed that there is no current intention to use this facility, based on the period-end cash position and current business plan. Additionally, the term of this loan facility has been extended from 2024 to 2028.

Share consolidation

Aiming to make the shares more attractive to investors

The most recent increase in share capital in 2020 resulted in an extraordinarily large number of shares in issue – >7bn – which trade at an extremely low share price – less than 1p. Consequently, the board is of the opinion that high trading volumes are not conducive to an orderly market for the shares. At the AGM on 27 April, the board is recommending a 1-for-100 share consolidation, which, if approved by shareholders, will result in 70,357,949 Ordinary shares being in issue, and trading at 58p (at yesterday's closing price). In our opinion, given that the current number of shares is unwieldy and trading at a low price, this is a sensible move.

Financials and investment case

Income statement

- **Sales:** Strong underlying sales growth of 26% in fiscal 2022 augurs well for 2023. Future growth is dependent on tissue supply, the activities of customers and healthcare providers, and the expansion of both product range and geographically into selected markets.
- **COGS:** Gross margins were held back in 2022, due to the one-off provision taken for the termination of a supplier contract. Despite this, the reported margin had still returned to pre-pandemic levels. Increased processing efficiencies are expected to see an expansion in the gross margin moving forward.
- **SG&A:** Although TRX continues to invest in marketing and commercial partnerships, the general administration costs are not expected to rise as fast as sales – although we are mindful of global inflation.
- **EBITDA:** TRX is forecast to become EBITDA-positive at the group level for the full year in 2023. Becoming EBIT-positive is more likely in 2024, although the leverage effect of an additional $0.6m of sales would be enough to swing this into 2023.

Income statement

Year-end Dec (£m)	2019	2020	2021	2022	2023E	2024E
USD:EUR	0.893	0.877	0.846	0.952	0.952	0.952
BioRinse	8.59	9.56	12.71	16.05	19.00	22.35
dCELL	5.41	4.25	4.25	5.30	6.55	8.35
GBM-V	2.65	2.66	2.79	3.13	3.50	4.00
Sales	**16.66**	**16.47**	**19.75**	**24.48**	**29.05**	**34.70**
COGS	-8.96	-8.90	-11.27	-13.22	-14.87	-17.21
Gross profit	7.69	7.57	8.48	11.26	14.18	17.48
Gross margin	46.2%	46.0%	42.9%	46.0%	48.8%	50.4%
SG&A	-17.05	-12.96	-12.46	-13.02	-14.85	-15.81
Share-based costs	0.15	0.04	-0.11	-0.25	-0.25	-0.25
Other income	0.00	1.10	0.00	0.00	0.00	0.00
Underlying EBITDA	**-8.17**	**-3.20**	**-3.00**	**-0.88**	**0.27**	**2.61**
Depreciation	-0.48	-0.32	-0.37	-0.52	-0.56	-0.56
Amortisation	-0.57	-0.73	-0.73	-0.62	-0.62	-0.62
Underlying EBIT	**-9.22**	**-4.26**	**-4.10**	**-2.01**	**-0.91**	**1.43**
Exceptional items	-0.02	-8.32	-0.36	0.00	0.00	0.00
Statutory EBIT	-9.24	-12.58	-4.45	-2.01	-0.91	1.43
Net interest	-0.46	-0.57	-0.69	-0.82	-0.85	-0.74
Underlying pre-tax profit	**-9.68**	**-4.82**	**-4.79**	**-2.83**	**-1.76**	**0.68**
Extraordinary items	0.00	0.00	0.00	0.00	0.00	0.00
Statutory pre-tax profit	-9.70	-13.15	-5.14	-2.83	-1.76	0.68
Tax payable/credit	0.55	0.68	0.16	0.23	0.09	-0.03
Underlying net income	**-9.12**	**-4.14**	**-4.63**	**-2.60**	**-1.68**	**0.65**
Statutory net income	-9.14	-12.46	-4.99	-2.60	-1.68	0.65
Ordinary 0.1p shares:						
Period-end (m)	1,172.0	7,033.1	7,035.8	7,036.8	7,037.8	7,038.8
Weighted average (m)	1,171.9	4,447.7	7,033.1	7,036.3	7,037.3	7,038.3
Fully-diluted (m)	1,204.4	4,514.6	7,156.0	7,159.2	7,160.2	7,161.2
Underlying basic EPS (¢)	**-0.78**	**-0.09**	**-0.07**	**-0.04**	**-0.02**	**0.01**
Statutory basic EPS (¢)	-0.78	-0.28	-0.07	-0.04	-0.02	0.01
Underlying fully-dil. EPS (¢)	-0.76	-0.09	-0.06	-0.04	-0.02	0.01
Statutory fully-dil. EPS (¢)	-0.76	-0.28	-0.07	-0.04	-0.02	0.01
DPS(¢)	0.0	0.0	0.0	0.0	0.0	0.0

Source: Hardman & Co Life Sciences Research

Balance sheet

- **Inventories:** Inventories increased 12% in 2022, but are stable, with more tissue being sourced and processed to meet customer demand. This is being reflected in a downward trend in the number of inventory days.
- **Working capital:** The balance between increased inventories and trade receivables was offset by an increase in payables. The increased revolving credit facility adds further flexibility to TRX's working capital needs.
- **Net cash/(debt):** At 31 December 2022, TRX had net debt of $3.66m, comprised of gross cash of $5.95m, offset by the MidCap term loan and revolving credit facilities of $6.26m, and financial leases of $3.35m. Repayments of the term loan are due to commence in January 2024.
- **Capital requirement:** Based on current forecasts, the gross cash position and the revolving credit facility are expected to be sufficient to satisfy TRX's working capital needs. The leverage effect of sales growth will consolidate the move to the EBITDA-positive position seen in 4Q'22. Additional operational efficiencies have moved the commencement of Phase 2 of the capacity expansion programme to 2025.

Balance sheet

@31 Dec (£m)	2019	2020	2021	2022	2023E	2024E
Shareholders' funds	32.49	38.27	33.39	30.40	28.72	29.37
Cumulated goodwill	0.00	0.00	0.00	0.00	0.00	0.00
Total equity	32.49	38.27	33.39	30.40	28.72	29.37
Share capital	7.74	15.95	15.95	15.95	15.95	15.95
Reserves	24.75	22.32	17.45	14.45	12.77	13.42
Provisions/liabilities	0.00	0.00	0.00	0.00	0.00	0.00
Deferred tax	0.89	0.76	0.64	0.52	0.42	0.32
Long-term leases	0.00	3.08	3.36	3.22	3.01	1.86
Short-term leases	0.00	0.35	0.12	0.13	0.13	0.13
Long-term debt	2.79	3.79	4.47	5.26	5.26	5.26
Short-term loans	0.23	0.00	0.00	1.00	0.00	0.00
less: Cash	3.14	12.97	7.71	5.95	5.01	3.98
less: Deposits	0.00	0.00	0.00	0.00	0.00	0.00
less: Non-core invests.	0.00	0.00	0.00	0.00	0.00	0.00
Invested capital	**33.03**	**33.28**	**34.27**	**34.58**	**32.53**	**32.97**
Fixed assets	3.11	4.42	5.71	5.74	5.93	6.16
Intangible assets	23.78	15.30	15.06	15.06	15.06	15.06
Right-of-use assets	0.00	3.34	3.39	3.20	2.99	1.85
Goodwill	0.00	0.00	0.00	0.00	0.00	0.00
Inventories	5.53	9.60	9.72	10.88	10.85	11.14
Trade debtors	*2.27*	*2.42*	*2.95*	*3.65*	*3.90*	*4.19*
Other debtors	*1.08*	*1.17*	*1.16*	*1.15*	*1.15*	*1.15*
Tax liability/credit	*1.37*	*1.12*	*0.53*	*0.40*	*0.23*	*-0.03*
Trade creditors	*-2.18*	*-1.32*	*-2.57*	*-2.57*	*-2.96*	*-3.40*
Other creditors	*-1.94*	*-2.76*	*-1.67*	*-2.94*	*-4.62*	*-3.16*
Debtors less creditors	0.61	0.63	0.39	-0.31	-2.30	-1.25
Invested capital	**33.03**	**33.28**	**34.27**	**34.58**	**32.53**	**32.97**
Net cash/(debt)	**0.12**	**5.75**	**-0.24**	**-3.66**	**-3.39**	**-3.27**
Inventory days	121	168	179	154	137	116
Debtor days	50	54	50	49	47	43
Creditor days	89	54	63	71	68	67

Source: Hardman & Co Life Sciences Research

Cashflow

- **Operational cashflow:** On a reported basis, TRX moved to EBITDA positivity in 4Q'22. Excluding the one-off dCELL provision, this was also the case for 2H'22, but not for the whole of fiscal 2022. This looks set to change in 2023 and beyond.
- **Capex:** Following completion of Phase 1 of the capacity expansion programme, maintenance capex was unusually low in 2022, but, with modern manufacturing facilities, significant expansion in capex is not expected until Phase 2 begins in 2025. Even then, it will likely be spread over two to three years.
- **Capitalised R&D:** The company continues to invest in R&D towards new product variants, but, as the core products are already approved and commercialised, this cost is being capitalised.

Cashflow

Year-end Dec (£m)	2019	2020	2021	2022	2023E	2024E
Underlying EBIT	-9.22	-4.26	-4.10	-2.01	-0.91	1.43
Depreciation	0.48	0.32	0.37	0.52	0.56	0.56
Amortisation	0.57	0.73	0.73	0.62	0.62	0.62
Share-based costs	-0.15	-0.04	0.11	0.25	0.25	0.25
Inventories	*-1.86*	*-4.12*	*-0.12*	*-1.16*	*0.03*	*-0.30*
Receivables	*1.08*	*-0.26*	*-0.51*	*-0.70*	*-0.25*	*-0.29*
Payables	*-1.57*	*0.22*	*0.16*	*1.25*	*0.39*	*0.44*
Change in working capital	-2.35	-4.15	-0.47	-0.62	0.17	-0.14
Exceptionals/provisions	1.31	-0.45	-0.36	0.00	0.00	0.00
Disposals	0.00	0.00	0.00	0.00	0.00	0.00
Other	-0.12	-0.16	0.00	-0.19	0.00	0.00
Company op. cashflow	**-9.47**	**-8.01**	**-3.72**	**-1.44**	**0.68**	**2.71**
Net interest	-0.37	-0.32	-0.39	-0.44	-0.57	-0.52
Lease payments	0.00	-0.24	-0.40	-0.36	-0.49	-1.36
Tax paid/received	0.65	0.88	0.62	0.19	0.40	0.09
Operational cashflow	**-9.18**	**-7.68**	**-3.89**	**-2.05**	**0.02**	**0.91**
Capital expenditure	-0.44	-1.57	-1.55	-0.38	-0.75	-0.80
Capitalised R&D	-0.21	-0.29	-0.50	-0.71	0.00	0.00
Sale of fixed assets	0.00	0.00	0.00	0.00	0.00	0.00
Free cashflow	**-9.84**	**-9.55**	**-5.94**	**-3.14**	**-0.73**	**0.11**
Dividends	0.00	0.00	0.00	0.00	0.00	0.00
Acquisitions	0.00	0.00	0.00	0.00	0.00	0.00
Disposals	0.00	0.00	0.00	0.00	0.00	0.00
Other investments	0.00	0.00	0.00	0.00	0.00	0.00
Cashflow after invests.	**-9.84**	**-9.55**	**-5.94**	**-3.14**	**-0.73**	**0.11**
Share repurchases	0.00	0.00	0.00	0.00	0.00	0.00
Equity issues	0.00	18.67	0.00	0.01	0.00	0.00
Funding costs	0.00	-1.15	0.00	0.00	0.00	0.00
Currency effect	-0.02	0.08	-0.05	-0.29	0.00	0.00
Cash/(debt) acquired	0.00	-2.43	0.00	0.00	0.00	0.00
Change in net debt	**-9.86**	**5.63**	**-5.99**	**-3.42**	**-0.73**	**0.11**
Opening net cash/(debt)	9.98	0.12	5.75	-0.24	-3.66	-3.39
Closing net cash/(debt)	**0.12**	**5.75**	**-0.24**	**-3.66**	**-4.39**	**-3.27**
OCFPS (¢)	-0.78	-0.17	-0.06	-0.03	0.00	0.01

Source: Hardman & Co Life Sciences Research

Valuation

TRX plays valuable niche role for its commercial partners

Valuing a company like TRX is extremely difficult. Although it has been a long ride, the company has achieved a number of significant accomplishments, while converting its technologies into commercially useful medical products and devices. To get the company to where it is today, TRX has invested ca.$120m, plus $30m for the acquisition of CellRight in 2017. However, these simple numbers ignore the significant hurdles that have been overcome, notably the supply, storage and processing of human tissue, and the inherent manufacturing "know-how". Although its large commercial partners could undertake this work, they prefer to leave the complex supply, manufacturing and regulatory issues to a niche player like TRX. This places TRX in a strong position with its partners.

The equivalent of 1.7p per share has been invested to get the company to where it is today

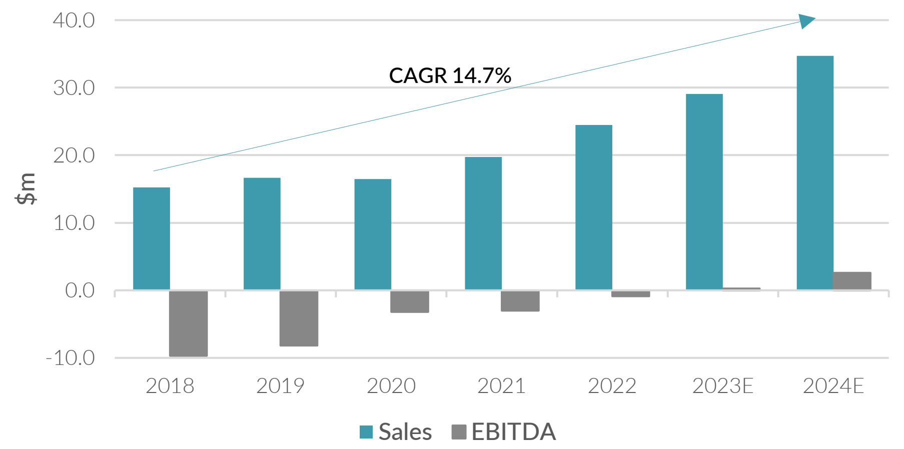
Based on the following facts, TRX, with a market capitalisation of £38.7m/$48.4m, is currently being undervalued by the market:

- To get TRX to where it is today, $150m/£123m – equivalent to 1.7p per share – has been invested into the company.
- The R&D investment by TRX to obtain marketing authorisations for a number of products, excluding all the investment made by CellRight, has been $30m/£25m.
- The marketing and administrative overheads to establish its products in the market (mostly in the US), and to sign up the network of GPOs and distribution partners, have been $120m/£98m.
- The administrative achievement in obtaining the relevant accreditations and licences for the harvesting and processing of human tissue is considerable.

Strong, positive momentum led TRX to become EBITDA-positive in 4Q'22

TRX achieved a major milestone when it became EBITDA-positive in 4Q'22. The leverage effect of further sales growth is expected to see this translate into becoming EBITDA-positive overall in 2023 and EBIT-positive in 2024, even allowing for the potential influence of external factors beyond the company's control.

Sales and underlying EBITDA, 2018-24E



Source: Hardman & Co Life Sciences Research

Significant mis-match between valuation and market capitalisation

Close relationships with a number of the major medtech players, who need significant annual product sales in order to justify the relationships, are expected to drive future sales growth. dCELL segment sales growth is dependent on further recovery in the number of elective surgeries, which can be postponed, but never cancelled. Hitting the EBITDA-positive milestone in 4Q'22 has provided the market with reassurance of the trend towards profitability. In turn, this should be reflected in upward momentum towards a market capitalisation of $139m/£112m, or 4x prospective 2024 sales.

Company matters

Registration

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US operations:

1808 Universal City Boulevard
Universal City
San Antonio
Texas
78148

Board of Directors

Board of Directors

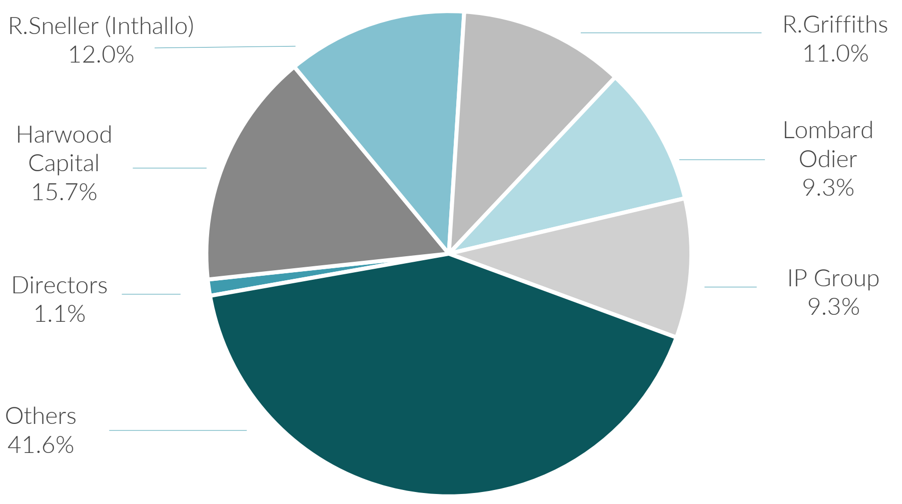
Position	Name	Remuneration	Audit
Chairman	Jonathan Glenn		M
Chief Executive Officer	Daniel Lee		
Chief Financial Officer	David Cocke		
Non-executive director	Shervanthi Homer-Vanniasinkam	M	
Non-executive director	Brian Phillips	M	C
Non-executive director	Trevor Phillips	C	M

M = member, C = chair
Source: Company reports

Share capital

On 3 April 2023, the company had 7,035,794,890 Ordinary shares of 0.1p in issue. There are also 171.89m options and 3.10m warrants outstanding.

Shareholders



Source: Company announcements, Hardman & Co Life Sciences Research

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(Disclaimer Version 8 – Effective from August 2018)

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In particular, Article 12(3) of the Directive states: 'The following benefits shall qualify as acceptable minor non-monetary benefits only if they are: (b) 'written material from a third party that is commissioned and paid for by a corporate issuer or potential issuer to promote a new issuance by the company, or where the third party firm is contractually engaged and paid by the issuer to produce such material on an ongoing basis, provided that the relationship is clearly disclosed in the material and that the material is made available at the same time to any investment firms wishing to receive it or to the general public…'

The fact that Hardman & Co is commissioned to write the research is disclosed in the disclaimer, and the research is widely available.

The full detail is on page 26 of the full directive, which can be accessed here: http://ec.europa.eu/finance/docs/level-2-measures/mifid-delegated-regulation-2016-2031.pdf

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