

e-therapeutics

Update

First commercial deal secured with global diabetes leader

10 December 2018

The Type 2 diabetes research collaboration with Novo Nordisk provides important validation for e-therapeutics and its proprietary Network-Driven Drug Discovery (NDD) platform. It is the first commercial deal to arise from the extensive business development efforts, and its significance extends beyond the undisclosed deal economics. It marks the first exploitation of the NDD platform in metabolic disease, with the world leader in diabetes, providing valuable external endorsement and de-risking of the platform. It may also catalyse further near-term deals with large pharma players; multiple discussions are known to be underway with various potential partners, across a spectrum of disease areas. Our valuation is £57.8m or 21.9p/share.

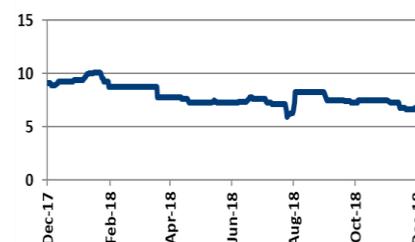
Year-end: January 31	2017	2018	2019E	2020E
Sales (£m)	0.0	0.0	0.0	0.5
Adj. PBT (£m)	(13.4)	(6.7)	(5.4)	(3.9)
Net Income (£m)	(13.1)	(5.4)	(4.3)	(3.1)
EPS (p)	(3.9)	(2.0)	(1.6)	(1.1)
Cash (£m)	14.0	9.6	5.2	2.6
EBITDA (£m)	(13.7)	(6.7)	(5.4)	(3.9)

Source: Trinity Delta Note: Adjusted numbers exclude exceptionals

- Execution of first commercial deal** The deal is structured as an initial 12-month research collaboration, under which e-therapeutics' NDD platform will be applied in the discovery of potentially novel biological mechanisms and therapeutic approaches for a specific area of Type-2 diabetes. Novo Nordisk also has the option to license IP generated under the collaboration; any such license would require mutual agreement of appropriate terms. Financial details have not been disclosed.
- Further evidence of NDD platform versatility** The NDD platform has previously generated encouraging data in multiple complex disease areas, including immunology (with in-house assets targeting tryptophan catabolism and immune checkpoint inhibition), fibrosis, and most recently [Parkinson's disease](#). This first foray into metabolic disease, supported by the unrivalled expertise and know-how of Novo Nordisk, underlines the platform's versatility, flexibility, and applicability to diverse and commercially important disease areas.
- The first of many deals** e-therapeutics global business development activities for NDD-based programmes and projects have been extensive, involving detailed discussions with several potential large biopharma partners (including with over half of the top 25 global players). Several conversations are ongoing, in various disease areas. A deal with a company of Novo Nordisk's calibre should be a precursor for further deals, potentially larger in size and scope. The decision-making process at large pharma can be protracted, but competitive tension may add impetus.
- Valuation upgrade to 21.9p** Financial terms are undisclosed, so we have updated our forecasts and valuation with assumptions broadly based on similar early-stage research collaborations disclosed by other companies. Upside would come from progression of the Novo Nordisk collaboration into a licensing agreement, and from new deals with large pharma or other partners. End-July 2018 cash of £7.6m continues to be sufficient to operate into 2020 (FY21). Our valuation is upgraded to £57.8m (21.9p/share) up from £53.8m (20.4p/share).

Price (Sterling)	6.75p
Market Cap	£18.1m
Enterprise Value	£10.5m
Shares in issue	268.6m
12 month range	5.8p-10.4p
Free float	28%
Primary exchange	AIM London
Other exchanges	NA
Sector	Healthcare
Company Code	ETX

Corporate client Yes



Company description

e-therapeutics is a drug discovery company with a proprietary network driven drug discovery (NDD) platform. Following management changes and a strategic review in 2017, the focus is now on optimising its discovery processes and platform and securing industry collaborations and partners for its projects.

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Business development bears commercial fruit

First commercial deal for the proprietary network driven drug discovery (NDD) platform....

e-therapeutics collaboration with Novo Nordisk is its first ever commercial deal and follows prioritisation of business development by the 2017 strategic review. The review focused business development on three core areas: NDD platform deals; out-licensing of in-house NDD-derived assets; and NDD platform enhancements. Early successes fell into the last category, with the Intellegens (neural networks), Biorelate (natural language processing) and C4X Discovery (genetic associations in Parkinson's disease) partnerships, although this, the first commercial deal, is far more significant.

...is a Type 2 diabetes collaboration with a global leader, Novo Nordisk

Novo Nordisk is a global leader in diabetes, with a commercial diabetes franchise (including long-acting insulin and GLP-1 products) that represents c80% of its total sales (\$7.4bn in FY17). It has a current [pipeline](#) of four diabetes programmes and a commitment to innovation, which is where e-therapeutics fits in. While this collaboration marks the first application of the NDD platform to metabolic disease (specifically Type 2 diabetes), the expertise and know-how that Novo Nordisk brings to the partnership means there is likely a greater probability of success.

Important external validation for the application of NDD to complex disease

Attracting and also securing a partner of this calibre should bring several benefits to e-therapeutics, not least in providing important external validation and confidence in the versatility of the NDD platform. It provides further assurance that NDD can be broadly applied to multiple biologically complex diseases, which are often, like Type 2 diabetes, highly commercially relevant given their prevalence, growing incidence, and continued unmet medical need.

Could catalyse further commercial deals...

This deal may provide further impetus to ongoing business development discussions across various disease areas. At H119 results, management confirmed that it was in detailed discussions with many potential large biopharma partners for NDD-based programmes and projects, having had in-depth discussions with over half of the top 25 biopharmaceutical companies. Notably, the company has also been shortlisted as preferred partner by a number of these as part of their AI/machine learning/*in silico* technology selection exercises, as more companies look to use the various technologies to bolster their productivity.

...numerous discussions are ongoing...

There are manifold attractive reasons for pharmaceutical companies to collaborate with e-therapeutics to gain access to its NDD platform. e-therapeutics has shown that it can exploit NDD to rapidly create rationally-selected, high quality, active, and chemotypically-diverse hits. It has, to date, generated hits, leads and IP in oncology, neurodegeneration, inflammation and anti-virals. Alongside this, the company's *in silico* output has been broadened into other disease areas (eg Parkinson's disease and fibrosis). This breadth of activity translates to wide-ranging opportunities for business development.

...and there are multiple reasons why e-therapeutics is an ideal partner

We reiterate some of the key drivers for potential partners below:

- To gain biological insights into disease through a novel approach, enabling identification of innovative targets/biological pathways/drug candidates in a given disease area;
- To accelerate a drug discovery programme and save costs;
- Where a company has previously been unsuccessful in its drug discovery

efforts in a particular field;

- To filter/prioritise a compound library effectively as high-level phenotypic assays are generally too complex for high throughput screening; and
- To access e-therapeutics' proprietary data or novel compounds in sought after areas of disease biology.

We anticipate that the Novo Nordisk collaboration will pave the way for further commercial deals, which may have the potential to be larger in size, timeframe, and scope. Decision making at large pharma can be protracted, especially when it relates to novel technology; thus the Novo Nordisk deal could be viewed as an important de-risking step which acts as a precursor to subsequent transactions.

Valuation and financials

There is limited disclosure about the structure and economics terms of the Novo Nordisk collaboration, hence we have had to make assumptions regarding this in our financial and valuation models. These assumptions are based on precedent in similar early-stage research collaborations that other companies have secured (e.g. Vernalis/Ligand). We assume that e-therapeutics is reimbursed for work it carries out under the initial 12-month collaboration period (potential revenue of £500k with no associated COGS), at the end of which, mutually agreeable licensing terms will need to be negotiated to allow Novo Nordisk to commercially exploit any of the associated IP and know-how. We would anticipate that this license would be structured with an upfront payment and payments based on achievement of development milestones.

We have updated our DCF-based valuation model to reflect the deal with Novo Nordisk and increased likelihood of further deals. Following our review, we have increased our valuation of e-therapeutics by £4.0m to £57.8m, equivalent to 1.5p per share to 21.9p per share. Exhibit 1 details our revised valuation.

Exhibit 1: DCF-based valuation of e-therapeutics

	NPV (£m)
Operating expenses H219-FY22*	(9.5)
Value of four risk-adjusted deals	59.7
- Deal 1 – Novo Nordisk (Initial collaboration fees of £0.5m + NPV of £15m in FY20, probability: 75% for potential licensing agreement)	
- Deal 2 (NPV of £25m in FY20, probability: 60%)	
- Deal 3 (NPV of £50m in FY21, probability: 50%)	
- Deal 4 (NPV of £50m in FY22, probability: 40%)	
Cash at H119	7.6
Valuation (£m)	57.8
Valuation/share (p)	21.9
Discount rate	12.5%

Source: Trinity Delta

Our updated financial model is shown overleaf in Exhibit 2. It includes the £0.5m in estimated revenues from the Novo Nordisk collaboration in FY20, and there are no changes to e-therapeutics' operating expenses. We now estimate that the company will have a cash position of £2.6m at year-end FY20 (31 January 2020).

Valuation upgraded to 21.9p from 20.4p

Exhibit 2: Summary of financials

Year-end: January 31	£'000s	2016	2017	2018	2019E	2020E
INCOME STATEMENT						
Revenues		0	0	0	0	500
Cost of goods sold		0	0	0	0	0
Gross Profit		0	0	0	0	500
R&D Expenses		-9,965	-10,911	-5,019	-3,985	-3,110
Sales, General and Administrative Expenses		-1,590	-2,614	-1,749	-1,490	-1,332
Underlying operating profit		-11,555	-13,525	-6,768	-5,475	-3,942
Exceptionals		0	-2,101	0	0	0
Other revenue/expenses		0	-704	0	0	0
EBITDA		-11,482	-13,469	-6,696	-5,430	-3,911
Operating Profit		-11,555	-16,330	-6,768	-5,475	-3,942
Interest income		271	132	49	28	19
Profit Before Taxes		-11,284	-16,198	-6,719	-5,446	-3,923
Adj. PBT		-11,284	-13,393	-6,719	-5,446	-3,923
Current tax income		2,464	3,073	1,360	1,125	840
Net Income		-8,820	-13,125	-5,359	-4,321	-3,083
EPS (p)		(3.3)	(4.9)	(2.0)	(1.6)	(1.1)
Adj. EPS (p)		(3.3)	(3.9)	(2.0)	(1.6)	(1.1)
DPS (p)		0.0	0.0	0.0	0.0	0.0
Average no. of shares (m)		264.4	267.1	268.5	268.6	268.6
<i>Gross margin</i>		<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>100%</i>
<i>EBITDA margin</i>		<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
<i>Underlying operating margin</i>		<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
BALANCE SHEET						
Current assets		28,783	17,724	11,556	6,906	3,907
Cash and cash equivalents		6,342	4,475	7,097	3,227	2,564
Short-term investments		18,500	9,500	2,500	2,000	0
Accounts receivable		1,472	777	595	545	495
Inventories		0	0	0	0	0
Other current assets		2,469	2,972	1,364	1,134	849
Non-current assets		804	207	206	199	191
Property, plant & equipment		64	51	71	61	58
Intangible assets		740	156	135	138	133
Current liabilities		-1,156	-1,951	-1,024	-602	-602
Short-term debt		0	0	0	0	0
Accounts payable		-1,156	-1,951	-1,024	-602	-602
Non-current liabilities		0	0	0	0	0
Equity		28,431	15,980	10,738	6,503	3,496
CASH FLOW STATEMENTS						
Operating cash flow		-8,848	-9,242	-4,319	-4,339	-2,641
Profit before tax		-11,555	-16,330	-6,768	-5,475	-3,942
Non-cash adjustments		288	2,962	177	125	107
Change in working capital		63	1,362	-782	-374	50
Interest paid		329	194	86	30	19
Taxes paid		2,027	2,570	2,968	1,355	1,125
Investing cash flow		13,356	7,362	6,929	463	1,977
CAPEX on tangible assets		-144	-165	-71	-37	-23
Other investing cash flows		13,500	7,527	7,000	500	2,000
Financing cash flow		12	13	12	6	0
Proceeds from equity		12	13	12	6	0
Other financing cash flow		0	0	0	0	0
Net increase in cash		4,520	-1,867	2,622	-3,870	-664
Exchange rate effects		0	0	0	0	0
Cash at start of year		1,822	6,342	4,475	7,097	3,227
Cash at end of year		6,342	4,475	7,097	3,227	2,564
Net cash at end of year		24,842	13,975	9,597	5,227	2,564

Source: e-therapeutics, Trinity Delta Note: Adjusted numbers exclude exceptionals.

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