Avacta

R&D accelerated to advance assets

Avacta is the proprietary owner of Affimer technology for the development of bio-therapeutics, diagnostic tests and research reagents. Affimers represent a radical alternative to established antibody technology which dominates the drug industry, despite its limitations. Avacta has made considerable progress towards its strategic goal to be ready to enter first-in-man Affimer trials by the end of 2019. Recent results highlighted significant progress made in its in-house therapeutic programmes with the first *in-vivo* studies showing safety, tolerability and efficacy of an Affimer. This adds to the de-risking of Affimer technology and attracting potential partners.

- **Strategy**: To commercialise its Affimer technology through a combination of bespoke research tools, collaborative deals and by identifying and developing its own proprietary therapeutic Affimer leads. Avacta has sufficient cash resources to identify an Affimer lead to be ready for first-in-man in 2019.

- **FY 2017:** Revenues increased by +26% to £2.74m, with the Affimer business accounting for 42%. Avacta sees endorsements of its technology with 91% YOY increase of the order book for custom Affimers, partnerships being signed for diagnostic and therapeutic applications, and multiple on-going evaluations.

- **In-house R&D:** First disclosure of the in-house research pipeline focusing on the immuno-oncology field. The most advanced project targeting the PD-L1 receptor is advancing apace with selection of a Lead Affimer and several *in vivo* experiments showing, for the first time, the efficacy, safety and tolerability.

- **Partnerships:** Avacta continues to attract partners in both the therapeutic and diagnostic fields. Several new targets were selected in the existing Moderna partnership and Avacta signed a major deal with one of the top three global diagnostic companies, creating potential for future revenues and royalty streams.

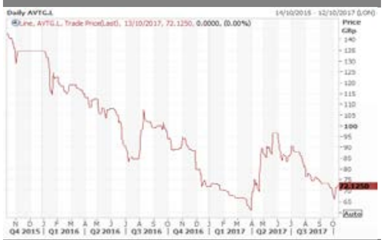
- **Investment summary:** Avacta has made considerable progress towards its goal of having its own proprietary Affimer-based drugs and growing a profitable reagents business, which is not yet being reflected in the share price. In just 18 months, AVCT has identified potential leads and completed *in vitro* and *in vivo* pharmacokinetic pre-clinical tests, efficacy and immunogenicity tests. The next step is to select its immuno-oncology lead candidate for filing as an IND in 2018.

Financial summary and valuation

Year end July (£m)	2015	2016	2017	2018E	2019E	2020E
Sales	1.81	2.17	2.74	3.25	3.70	5.60
R&D spend	-0.03	-0.86	-1.95	-3.80	-4.30	-4.50
EBITDA	-2.28	-4.15	-6.01	-7.97	-8.42	-9.40
Underlying EBIT	-2.85	-4.75	-6.94	-8.91	-9.35	-10.33
Reported EBIT	-5.57	-5.66	-7.33	-10.13	-10.77	-11.84
Underlying PBT	-2.83	-4.65	-6.86	-8.86	-9.35	-10.38
Statutory PBT	-5.54	-5.57	-7.24	-10.09	-10.77	-11.89
Underlying EPS (p)	-4.38	-5.51	-7.79	-10.71	-11.09	-12.57
Statutory EPS (p)	-9.84	-6.86	-8.36	-12.50	-13.16	-14.78
Net (debt)/cash	7.33	19.52	13.17	4.05	-5.51	-15.96
Capital increase	0.02	21.05	0.01	0.00	0.00	0.00
EV/sales (x)	40.0	33.5	26.5	22.3	19.6	12.9

Source: Hardman & Co Life Sciences Research

Pharmaceuticals & Biotechnology



Source: Eikon Thomson Reuters

Market data

EPIC/TKR	AVCT
Price (p)	72.5
12m High (p)	98.2
12m Low (p)	60.0
Shares (m)	68.4
Mkt Cap (£m)	49.6
EV (£m)	33.5
Free Float*	57%
Market	AIM

**As defined by AIM Rule 26*

Description

Avacta is a pre-clinical stage biotechnology company developing biotherapeutics based on its proprietary Affimer protein technology. It benefits from near-term revenues from research and diagnostic reagents.

Company information

CEO	Alastair Smith
CFO	Tony Gardiner
Chairman	Trevor Nicholls

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www.avacta.com

Key shareholders

Directors	4.2%
IP Group	24.8%
Lombard Odier	11.5%
Aviva	9.8%
Baillie Gifford	6.6%
Ruffer LLP	7.1%

Next event

2H-17	Glythera feasibility
Jan-18	AGM
1H-18	Sloan Kettering feasibility

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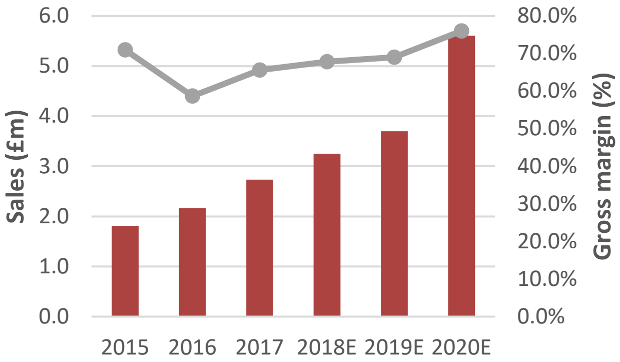
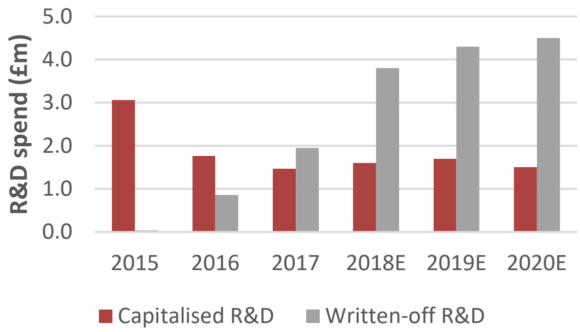
Sales & gross margin



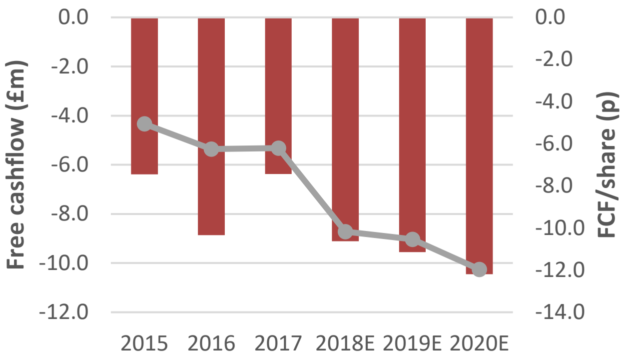
- Sales are derived partly from a stable Animal Health business and the growing contribution from Affimers (Life Sciences) accounting now for 42% of the business
- Life Sciences sales are forecast to overtake the Animal Health sales in fiscal 2019
- Gross margins are expected to remain steady in the range 65-70%
- Forecasts do not include any contributions from licensing or milestone income which are lumpy and unpredictable

R&D investment



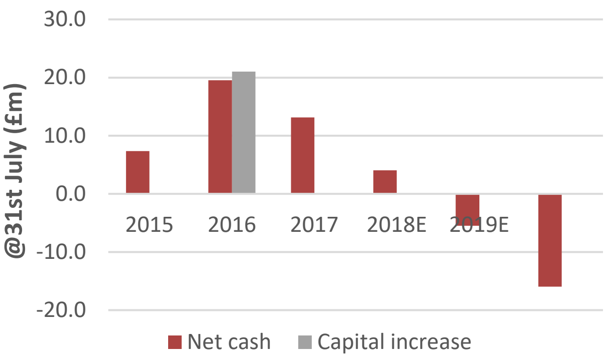
- Investment in R&D is two-fold: that for reagents/diagnostics is capitalised; whereas the therapeutic work is written-off
- Increase in investment is directly linked to the Affimer development programme
- Some R&D investment may be recovered through partnership programmes

Free cashflow



- The cash burn is approximately £0.53m per month and set to rise in the coming years
- Investment in senior personnel in 2016 and expanded facilities in both Cambridge and Wetherby in 2017 have added to the on-going cost structure
- Investment in a new US business development team will increase the cost in fiscal 2018

Net cash/(debt) & capital increases



- At 31st July 2017, Avacta had £13.2m net cash on its balance sheet
- Avacta is forecast to have sufficient cash resource for its internal development programmes and to be ready for first-in-man trials in 2019
- The net cash position would be positively affected by any announcements of partnerships/licensing deals

Source: Company data; Hardman & Co Life Sciences Research

2017 results

2017…a year of considerable progress

Development highlights

Affimer therapeutics

- **PD-L1 programme:** The in-house programme is progressing apace, with a lead Affimer (AVA-004) selected and some of the early pre-clinical development work completed. Remains on track for first-in-man trial in 2019
- **In-house pipeline:** First disclosure of the in-house research pipeline focusing on immuno-oncology with eight projects being evaluated
- **Pre-clinical dataset:** Avacta is continuing the de-risking work of the Affimer platform with several *in vivo* experiments being completed, showing safety and tolerability. The immunogenicity assessment of several Affimers was performed, which provided key data towards the de-risking of Affimers therapeutics
- **Partnerships:** Growing interest in the Affimer platform with several deals signed including Moderna for mRNA therapeutics, Sloan Kettering for CAR-T therapies, Glythera for Affimer Drug-Conjugates and FIT Biotech for gene delivery therapeutics. Additional drug targets were added in the deal with Moderna for use in its mRNA platform. Several other potential partner evaluations are on-going

Affimer research and diagnostic reagents

- **Paid-for Affimers:** Order book grew 91% YOY, showing increasing endorsement of the Affimer platform, with potential in commercial licensing
- **Licensing agreement:** First deal signed by Avacta with one of the top three global diagnostic companies for an undisclosed sum, paving the way for future revenues and royalty streams

Corporate highlights

- **New facilities:** Two new facilities totalling 20,000 sq.ft. between them are now fully operational in Wetherby and Cambridge
- **US commercial team:** Post-period, Avacta set up a presence on the East and West coasts of the US with the creation of a US Business Development team, to build on the growing interest in Affimers as both therapeutics and diagnostics

Financial highlights

- **Revenue**: Sales up +26% to £2.74m (£2.17m); driven largely by the Life Sciences segment (+64% to £1.15m); while Animal Health grew +9% to £1.59m
- **R&D**: The total amount of cash invested into R&D during 2017 increased 31% to -£3.43m (-£2.62m). Of this, -£1.95m (-£0.86m) was for Affimer therapeutics and written off through the P&L account; the remainder was capitalised
- **Net cash**: Better than forecast at £13.2m, benefitting from early payment of the R&D tax credit by HMRC

Avacta Results 2017 – actual vs expectations					
Year ending 30th April (£m)	**2016 actual**	**2017 actual**	**growth %**	**2017 forecast**	**Delta Δ**
Sales	2.17	2.74	+26%	2.85	-0.11
R&D spend*	-0.86	-1.95	+127%	-1.98	+0.03
Administration	-5.16	-6.79	+32%	-6.80	+0.01
EBIT loss	-4.75	-6.94	+46%	-6.94	-
Tax credit	+1.42	+1.20	-15%	+0.82	+0.38
Net loss	**-4.65**	**-5.72**	**+23%**	**-6.86**	**+1.14**
Net cash/(debt)	+19.52	+13.17	-33%	+12.26	+0.91

**See page 12; Figures may not add up exactly due to rounding*
Source: Avacta; Hardman & Co Life Sciences Research

Development update

Affimer therapeutics

Significant opportunity even focusing only on areas not adequately addressed by antibodies

The opportunity for Avacta is quite significant because there is a wide range of therapeutic targets not adequately addressed by antibody proteins. However, selecting the right targets for in-house therapeutic programmes is critical to maximise the chances of achieving successful clinical trials and high value licensing deals.

Avacta's key strategic objectives are to:

- Progress the first Affimer into the clinic
- Build a pipeline of therapeutic Affimers for partnering
- Secure further partnering/licensing deals

Strategy to minimise risk by targeting PD-L1 inhibitor

To minimise the risk and provide a showcase of the Affimer technology, Avacta is focusing its efforts on a highly valued drug target that is relatively well-known, with its most advanced product being an inhibitor of the immune checkpoint PD-L1. The aim is more about de-risking, relatively quickly, the Affimer technology platform as a therapeutic agent in the form of a monomer or multimer.

At its results meeting, Avacta disclosed, for the first time, its in-house pipeline, which comprises seven additional programmes that are currently being progressed and/or evaluated as immuno-checkpoint modulators, T-cell recruiters and agonists.

In-house therapeutic platform

Considerable progress with its in-house Affimer programmes

Avacta continues to provide increased evidence of the benefits of its Affimer technology over antibody technology. During 2017, the company successfully overcame key milestones, which significantly de-risked the Affimer platform for use as a therapeutic:

- **First *in-vivo* model:** First time that an Affimer – targeting a PD-L1 immune checkpoint modulator – has been dosed multiple times in a CT26 syngeneic solid tumour animal model. This *in vivo* study demonstrated that it was well tolerated with no safety concerns. Also, it provided evidence of efficacy through the reduction in tumour growth together with an expected increase in the immune T-cell population, and without the generation of anti-drug antibodies
- **Immunogenicity:** Low immunogenicity response obtained on three different Affimer scaffolds against 50 human samples, in a PBMC assay, the gold standard in immunogenicity testing
- **Multimers:** Possibility to form multimers, a feature particularly relevant in T-cell recruitment and agonism that allows hetero-multimers able to bind to several cell membrane receptors and/or proteins, to be generated
- **Half-life modulation:** The fact that Avacta is able to easily generate, in high yield and high purity, Affimers that bind to human serum albumin, which has the ability to prolong significantly the half-life in the blood system

AVA-004 is the most advanced product in the quest to identify its first lead candidate

PD-L1 Programme

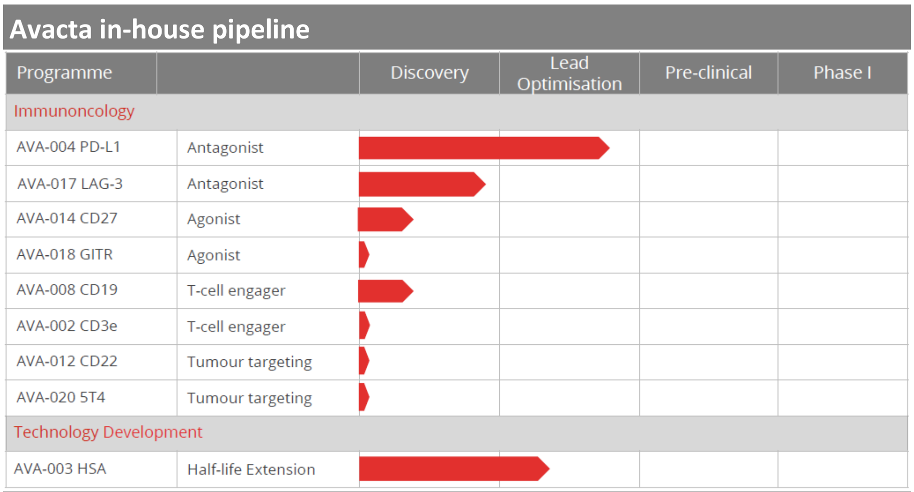
Multiple Affimers were generated from which a lead inhibitor of PD-L1 has been selected for further development. AVA-004 is currently undergoing further pre-clinical tests and *in vivo* studies, together with manufacturing development, with the aim of reaching the first-in-man milestone in 2019. Avacta will take AVA-004 into the clinic itself, but also remains open to discussions about partnering this putative drug.

Proof that Affimers are safe and well tolerated in human studies would represent a strong valuation inflexion point.

Other immuno-oncology programmes

Avacta is also working in early discovery of other important immuno-oncology targets, with a number of Affimers having been generated already in seven additional programmes:

- **Immune-checkpoint inhibitors:** Affimers could be used in combination or as a dimer. AVA-017, an inhibitor of the LAG-3 immune receptor, is at the late discovery stage. In addition to the mono-specific Affimer, Avacta has the possibility of producing a hetero-dimer which, together with the afore mentioned PD-L1 Affimer inhibitor, would generate a bi-specific reagent, mimicking bi-specific antibodies that are already being studied *in-vivo*
- **Agonists:** The focus is on the immune activators GITR and CD27, as Fc formatted Affimers, dimers and trimers that are key factors in stimulation and activation of the immune response
- **T-cell recruitment:** Hetero-dimer (basic T-cell engager) and hetero-trimer (for dual targeting) Affimers are expected to have characteristics for triggering T-cell activation and enhancing the anti-cancer effect by bringing together the T-cells (via CD3ε) and the cancer cell (via the CD19 receptor)
- **Tumour targeting:** The most advanced programme is focused on CD19; research has also been initiated on CD22 and 5T4 receptors found on the surface of cancer cells



Source: Avacta

Rapid evolution of the in-house portfolio highlights the relative ease of generating Affimers

The large in-house portfolio of products that Avacta is currently progressing demonstrates the relative ease of the Affimer technology in developing therapeutic agents and the company's ambition in proving the feasibility of the platform.

Accelerating R&D

R&D investment has been accelerated to generate a more complete pre-clinical package to attract potential partners

The strategy of Avacta has been to develop a lead Affimer to the point of entering humans as soon as possible – estimated 2019 – as this was considered to be a major valuation inflection point. However, the interest being generated by Affimers, as evidenced by a noticeable shift from academic-based engagements to biotech and major pharma enquiries following publication of pre-clinical results, suggests that shareholder value could also be enhanced by generating a more complete set of pre-clinical data. Therefore, management has taken the decision to advance its pre-clinical development programme by accelerating R&D investment in fiscal 2018 and 2019, which has been reflected in our forecasts (see analysis of R&D – page 12).

Partnership programmes

The Affimer platform is getting more and more traction with several projects currently being reviewed by potential partners. The opportunity for Avacta is quite significant because of the wide range of therapeutic targets not adequately addressed by antibody proteins.

Moderna Therapeutics

Moderna extended its agreement with Avacta in 2017

Moderna is a US-based biotech company developing messenger RNA (mRNA) therapies for a broad range of targets. This deal was the first partnership signed by Avacta. Following evaluation, Moderna has the option of entering into exclusive license agreements for clinical development of selected therapeutic Affimer candidates as mRNA therapeutics in undisclosed indications, but probably immuno-oncology. Significant progress has been made as evidenced by an expansion of the collaboration during 2017 to include additional drug targets. This represents an important endorsement of the Affimer technology. In each case, Avacta will be entitled to milestone payments. The total value of these payments could reach several tens of millions of dollars with the potential for royalties on future product sales.

Glythera

Feasibility results due in the next quarter

The collaboration with Glythera focuses on the generation of a new class of therapeutic reagent, the Affimer drug conjugate, utilising Glythera's Permalink linker technology. Proof-of-concept studies are on-going and initial data suggest good stability of the reagent in various solvent conditions, and a good drug-to-Affimer ratio. Full disclosure of the proof of concept study is expected before the end of the year.

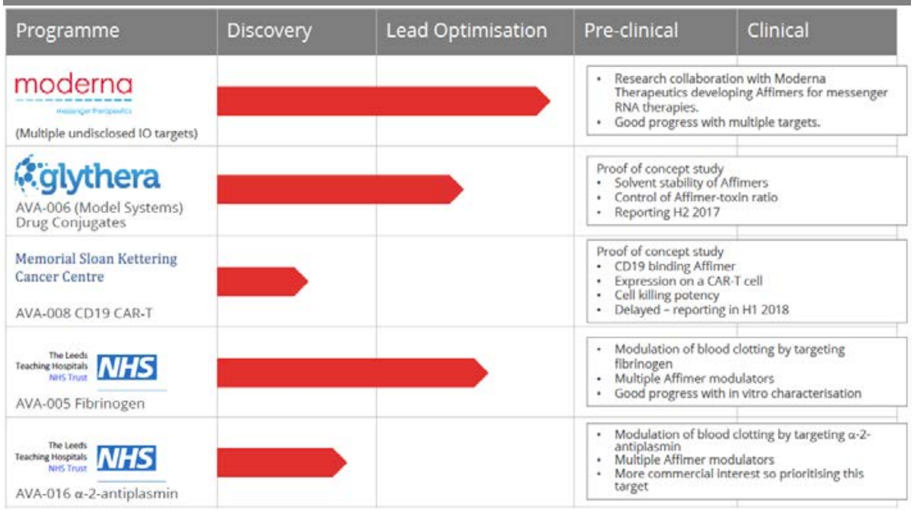
Sloan Kettering Cancer Centre

The discovery proof-of-concept CAR-T programme with the Memorial Sloan Kettering Cancer Center uses AVA-008, targeting the CD19 receptor on cancer cells. First results are expected to highlight the expression of the Affimer following presentation of the epitope on a CAR-T cell surface and cell killing. Full data are now expected to be disclosed in 1H 2018.

Leeds teaching Hospital NHS Trust

Two programmes are currently being carried out by Dr Ramzi Ajjan at Leeds NHS Trust, with several Affimers being generated against two distinct targets, fibrinogen and α_2-antiplasmin, both involved in blood clot formation. Both programmes are progressing well with a prioritisation of the α2-antiplasmin project due to early commercial interest in this target.

Partnership pipeline



Source: Avacta

Affimer research and diagnostic tools

As for the non-therapeutic division that is concentrating efforts on novel reagents for research and diagnostics, Avacta's strategy is to develop the Affimer platform in areas where it may have technical benefits over antibody technology, with the focus on three main areas:

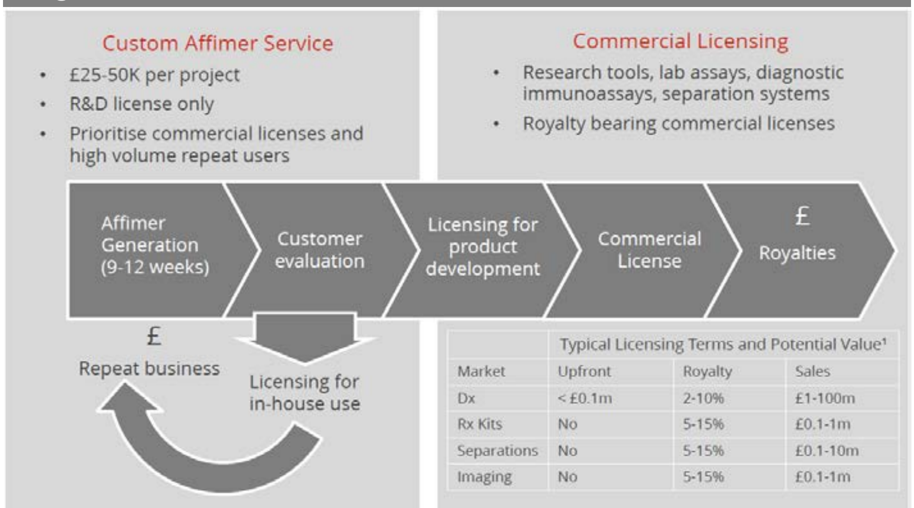
- Immunoassays
- Separation technology
- Diagnostics

Fee-for-service model…

…with potential for long-term royalty-based revenues

The business model has been established for over a year and is built on providing custom Affimer reagents on a fee-for-service model, that allows the potential for long-term royalty-based revenues *via* the establishment of licensing agreements. In addition, the company has its own R&D to support new initiatives using the Affimer technology for providing traction and potential new businesses.

Reagent business model



Source: Avacta

High levels of interest have seen a concomitant increase in custom service fees

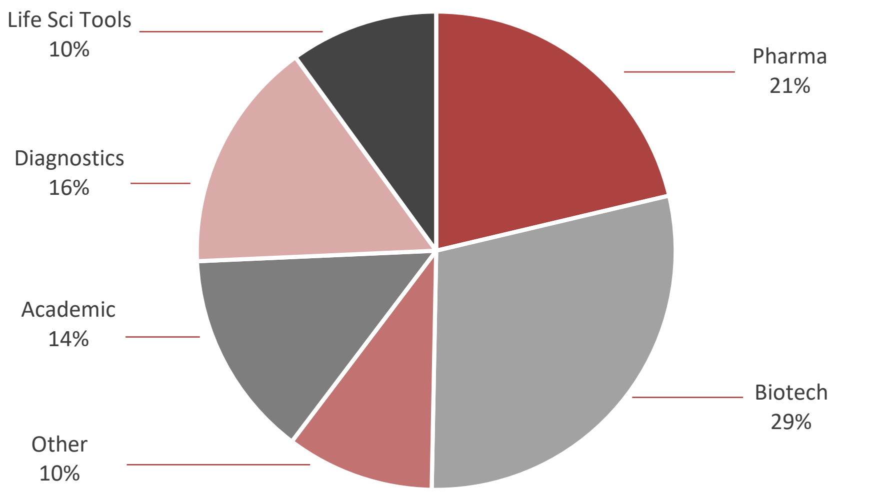
Avacta is building a client-based business with several customers doing repeat business – for example, one client has used the service 6 or 7 times with further projects in discussion. Also, the high degree of interest in the Affimer platform has allowed Avacta to increase its custom fee-for-service rate from £10-15k last year, to £25-50k currently. An undisclosed number of projects are under evaluation by medium to large key global players in diagnostics, R&D drug discovery, purification and consumer testing, each of which has the potential for commercial licensing deals. Although the evaluation process can take some time, several potential partners are well into the process, with Avacta delivering its first development deal, signed by one of the top three global diagnostic players (undisclosed).

In addition, following successful evaluation of custom Affimer projects, more than ten Affimer R&D licences have been agreed to date.

During 2017, Avacta has disclosed +60% revenue growth from its Affimer business together with a strong order book, up by 91% YOY. During fiscal 2017, more than 50 projects were undertaken with six out of the top 20 pharma companies.

As mentioned earlier, the company also observed a noticeable change in the end-user category for custom Affimers, with a greatly increased number of client requests coming from the biotech and pharma industry as opposed to academic-based customers.

Custom Affimer end-users



Source: Avacta

First reagent development deal

Deal with a top three global player is a major achievement

To sign a deal with one of the top 3 diagnostic companies is a major achievement and something to be proud of. The agreement follows a stage of technical evaluation of multiple Affimers, which were developed to detect a multimeric protein without capturing the related monomer. It is worth noting that antibody technology failed to distinguish between the multimeric protein and the monomer, proving the superiority of the Affimer platform in this particular case.

The deal involves the use of several Affimer reagents for an undisclosed sum. It provides strong validation of Affimer technology and likely paves the way to further deals in the future from the same third party.

Exploiting the US market

In order to maximise the growing potential of the Affimer platform in the important US market, Avacta recently took the strategic decision to open an office and establish a presence on both the East and West sides of the country. The plan is to build long term relationships that will ultimately lead to licensing deals and development partnerships.

Financials & Investment case

Profit & Loss

- **Revenue:** Sales up +26% at £2.74m, with the Life Sciences division rising +64% (2016: +63%) at £1.15m and accounting for 42% (32%) of total sales
- **SG&A:** Administration costs rose by 31% to -£6.79m (-£5.16m) with the Life Sciences division accounting for 70% at £3.98m
- **Gross margins:** Good increase to 66% (59%) and expected to remain in the range 65-70% moving forward
- **R&D:** Investment in R&D increased +127% to £1.95m and is expected to rise further in coming years, reflecting the accelerated development of in-house programmes, and R&D initiative for providing traction and potential new business

Profit & Loss account

Year end July (£m)	2015	2016	2017	2018E	2019E	2020E
Avacta Life Sciences	0.44	0.70	1.15	1.55	1.90	3.70
Avacta Animal Health	1.37	1.46	1.59	1.69	1.80	1.90
Sales	**1.81**	**2.17**	**2.74**	**3.25**	**3.70**	**5.60**
COGS	-0.53	-0.90	-0.94	-1.05	-1.15	-1.35
Gross profit	**1.29**	**1.27**	**1.79**	**2.20**	**2.55**	**4.26**
Gross margin	71%	59%	66%	68%	69%	76%
SG&A	-4.11	-5.16	-6.79	-7.31	-7.60	-10.09
R&D	-0.03	-0.86	-1.95	-3.80	-4.30	-4.50
EBITDA	-2.28	-4.15	-6.01	-7.97	-8.42	-9.40
Depreciation	-0.52	-0.60	-0.93	-0.93	-0.93	-0.93
Amortisation	-0.06	-0.64	-0.65	-0.80	-0.95	-1.00
Licensing/Royalties	0.00	0.00	0.00	0.00	0.00	0.00
Underlying EBIT	**-2.85**	**-4.75**	**-6.94**	**-8.91**	**-9.35**	**-10.33**
Share based costs	-0.25	-0.27	-0.39	-0.42	-0.47	-0.51
Exceptional items	-2.41	0.00	0.00	0.00	0.00	0.00
Statutory EBIT	-5.57	-5.66	-7.33	-10.13	-10.77	-11.84
Net financials	0.03	0.10	0.09	0.04	0.00	-0.05
U/L Pre-tax profit	**-2.83**	**-4.65**	**-6.86**	**-8.86**	**-9.35**	**-10.38**
Statutory pre-tax	-5.54	-5.57	-7.24	-10.09	-10.77	-11.89
Tax payable/credit	0.65	0.92	1.53	1.54	1.76	1.76
Tax rate	-12%	-16%	-21%	-15%	-16%	-15%
Underlying net income	**-2.18**	**-3.73**	**-5.33**	**-7.33**	**-7.59**	**-8.62**
Statutory net income	-4.89	-4.65	-5.72	-8.55	-9.01	-10.13
Ordinary shares (m):						
Period-end	49.80	68.38	68.39	68.40	68.50	68.60
Weighted average	49.73	67.71	68.39	68.40	68.45	68.55
Fully diluted	42.85	51.91	70.39	71.06	71.07	71.12
Underlying Basic EPS (p)	**-4.38**	**-5.51**	**-7.79**	**-10.71**	**-11.09**	**-12.57**
Statutory Basic EPS (p)	-9.84	-6.86	-8.36	-12.50	-13.16	-14.78
U/l Fully-diluted EPS (p)	**-4.20**	**-5.30**	**-7.50**	**-10.31**	**-10.68**	**-12.10**
Stat. Fully-diluted EPS (p)	-9.43	-6.60	-8.04	-12.03	-12.67	-14.23
DPS (p)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Source: Hardman & Co Life Sciences Research

Analysis of R&D investment

Management has made the strategic decision to increase investment in R&D to advance assets towards a value inflection point at a faster rate. Coupled to this, it has also decided to amortise capitalised R&D associated with the reagents business at a faster rate, such that reported R&D written-off through the P&L has increased through the forecast period, as has total cash R&D spend. The reagents and diagnostics spend is capitalised, whereas the therapeutics spend is expensed.

Analysis of R&D

Year end July (£m)	2016	2017	2018E	2019E
Underlying R&D written off (a)	-0.86	-1.95	-3.80	-4.30
Amortisation of capitalised R&D	-0.64	-0.65	-0.80	-0.95
Reported R&D charged to P&L	**-1.50**	**-2.60**	**-4.60**	**-5.25**
Capitalised R&D (b)	-1.76	-1.47	-1.60	-1.70
Cash spend on R&D (a + b)	**-2.62**	**-3.43**	**-5.40**	**-6.00**

Source: Hardman & Co Life Sciences Research

Balance sheet

- **Net cash/(debt):** Avacta had net cash of £13.17m at year-end, boosted by receipt of a double tax credit from HMRC
- **Cash position:** Base on forecasts, Avacta has enough cash to reach first-in-man with its in-house immuno-oncology PD-L1 programme

Balance sheet

at 31st July (£m)	2015	2016	2017	2018E	2019E	2020E
Shareholders' funds	19.13	35.86	29.89	21.34	12.33	2.19
Cumulated goodwill	0.00	0.00	0.00	0.00	0.00	0.00
Total equity	19.13	35.86	29.89	21.34	12.33	2.19
Share capital	5.06	6.92	6.92	6.92	6.92	6.92
Reserves	14.08	28.94	22.97	14.42	5.41	-4.72
Provisions/liabilities	0.86	0.34	0.34	0.34	0.34	0.34
Deferred tax	0.00	0.00	0.00	0.00	0.00	0.00
Long-term loans	0.00	0.00	0.00	0.00	0.00	0.00
Short-term loans	0.00	0.00	0.00	0.00	0.00	0.00
less: Cash	7.33	9.52	9.17	4.05	-5.51	-15.96
less: Deposits	0.00	10.00	4.00	0.00	0.00	0.00
Invested capital	**12.67**	**16.68**	**17.06**	**17.63**	**18.17**	**18.49**
Fixed assets	1.55	3.74	3.45	3.07	2.79	2.61
Intangible assets	10.36	11.48	12.30	13.90	15.60	17.10
Inventories	0.33	0.27	0.16	0.19	0.21	0.32
Trade debtors	*0.21*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*
Other debtors	*0.55*	*0.97*	*1.12*	*1.33*	*1.51*	*2.29*
Tax liability/credit	*1.07*	*1.42*	*1.20*	*1.54*	*1.76*	*1.76*
Trade creditors	*-0.66*	*-0.40*	*-0.40*	*-0.60*	*-0.90*	*-1.30*
Other creditors	*-0.74*	*-0.95*	*-0.92*	*-1.95*	*-2.96*	*-4.45*
Debtors less creditors	0.43	1.19	1.15	0.46	-0.43	-1.54
Invested capital	**12.67**	**16.68**	**17.06**	**17.63**	**18.17**	**18.49**

Source: Hardman & Co Life Sciences Research

Cashflow

- **Tax credits:** Tax repayment from HMRC were abnormally high at £1.75m in fiscal 2017 as they represented two years of R&D credits. Receipts in future years will revert to the usual credits due in a single period
- **Net cash:** At 31st July 2017 the balance was £13.2m, higher than forecast due to the cash receipts from HMRC. Forecasts suggest that the company has sufficient cash depending on how quickly the R&D spend accelerates into 1H 2019
- **Capitalised R&D:** R&D spend on diagnostics/reagents, where there is greater probability of a successful commercial product, will continue to be capitalised, but it is being amortised at a faster rate through the P&L account

Cashflow

Year end July (£m)	2015	2016	2017	2018E	2019E	2020E
Underlying EBIT	-2.85	-4.75	-6.94	-8.91	-9.35	-10.33
Depreciation	0.52	0.60	0.93	0.93	0.93	0.93
Amortisation	0.06	0.64	0.65	0.80	0.95	1.00
Inventories	*-0.21*	*0.07*	*0.11*	*-0.03*	*-0.03*	*-0.11*
Receivables	*0.20*	*-0.36*	*-0.13*	*0.00*	*0.00*	*0.00*
Payables	*0.06*	*-0.08*	*-0.06*	*-0.20*	*-0.30*	*-0.40*
Change in working capital	0.04	-0.38	-0.07	-0.23	-0.33	-0.51
Exceptionals/provisions	0.00	-0.44	0.00	0.00	0.00	0.00
Other	-0.29	0.00	0.00	0.00	0.00	0.00
Company op cashflow	**-2.55**	**-4.90**	**-6.07**	**-8.20**	**-8.74**	**-9.91**
Net interest	0.03	0.10	0.09	0.04	0.00	-0.05
Tax paid/received	0.01	0.57	1.75	1.20	1.54	1.76
Operational cashflow	-2.52	-4.23	-4.24	-6.96	-7.21	-8.20
Capital expenditure	-0.81	-2.86	-0.66	-0.55	-0.65	-0.75
Capitalised R&D	-3.06	-1.76	-1.47	-1.60	-1.70	-1.50
Sale of fixed assets	0.00	0.00	0.00	0.00	0.00	0.00
Free cashflow	**-6.38**	**-8.86**	**-6.37**	**-9.12**	**-9.56**	**-10.45**
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	2.21	0.00	0.00	0.00	0.00	0.00
Cashflow after investment	**-4.17**	**-8.86**	**-6.37**	**-9.12**	**-9.56**	**-10.45**
Share repurchases	0.00	0.00	0.00	0.00	0.00	0.00
Share issues	0.02	21.05	0.01	0.00	0.00	0.00
Cash/(debt) acquired	0.00	0.00	0.00	0.00	0.00	0.00
Change in net debt	**-4.15**	**12.19**	**-6.36**	**-9.12**	**-9.56**	**-10.45**
Hardman FCF/share (p)	-5.1	-6.3	-6.2	-10.2	-10.5	-12.0
Opening net cash	11.48	7.33	19.52	13.17	4.05	-5.51
Closing net cash	7.33	19.52	13.17	4.05	-5.51	-15.96

Source: Hardman & Co Life Sciences Research

Valuation

Avacta is trading on an EV of ca.£36m, having invested ca.£15.0m to date in its proprietary disruptive technology. In our opinion, there remains an under-appreciation of the market value of such assets.

Avacta Animal Health

Stable, legacy Animal Health is worth about £7.5-8.0m

Avacta has a stable, legacy, little talked about, Animal Health business. Sales are consistent each year at around the £1.5m level with modest growth, the gross margin is steady at around 68%, and it requires only low levels of investment. On an EV/sales (5x), or EV/EBITDA (10x) basis, the implied EV of this business is £7.5-8.0m. This suggests that the market is ascribing just £28m to the whole core Affimer platform.

Affimer business

Affimers are increasingly being de-risked and validated…

…which is not being reflected in the share price

This report has highlighted the considerable progress that management has made during 2017, both in enhancing the overall Affimer technology platform, and also in identifying and developing Affimers as therapeutic agents. Validation of this work is evident from expansion of the Moderna partnership. Initially, it was thought that the value of in-house therapeutic assets would be enhanced by taking them into man. However, a marked increase in number of enquiries/discussions from major pharma and biotech suggests that such assets can attract high value provided a detailed pre-clinical package is available to support the lead, hence management's decision to accelerate R&D going forward. Therefore, any licensing deal(s) would be expected to enhance the stock market's appreciation of Avacta's Affimer technology.

Comparative valuation

Avacta's immediate peers all command higher valuations

Also, we have updated our table of comparable quoted companies. This concentrates on a peer group that offers alternative technologies to antibodies, together with Abcam, a useful UK peer albeit this is an entirely catalogue-based business whereas Avacta has a lower volume, higher value licensing model in mind for Affimers. The share price used for Affibody Medical (private), is based on its 2016 capital increase which might not be a true reflection of value if the company were to be listed today. Affibody is no further advanced than Avacta which highlights the undervalue of the Affimer technology. The table shows clearly the potential for Avacta when its Affimer technology becomes further de-risked, and with an increased number of licensing deals.

Comparative valuation

Company	Ablynx	Abcam	Affibody Medical	Avacta	Molecular Partners
	ABLX	ABC	-	AVCT	MOLN
	EUR	GBP	SEK	GBP	CHF
Share price	17.7	1,009	47.0	72	23.7
Shares in issue (m)	61.4	204.6	13.5	68.4	21.0
Market cap (lc)	1,089.0	2,064.6	636.2	48.9	497.1
Mkt cap (£m)	970.6	2,064.6	59.0	48.9	384.5
Cash	204.5	84.7	90.9	13.2	157.0
Debt	-103.3	0.0	0.0	0.0	0.0
EV (lc)	987.8	1,979.9	545.3	35.7	340.1
EV (£m)	**880.4**	**1,979.9**	**50.6**	**35.7**	**263.0**
2017 sales	70.0	202.5	120.0	3.2	12.0
EV/sales	14.1	9.8	4.5	11.0	28.3

Prices/currencies taken at close of business on 12th October 2017
Source: Company reports; Hardman and Co Life Sciences Research

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