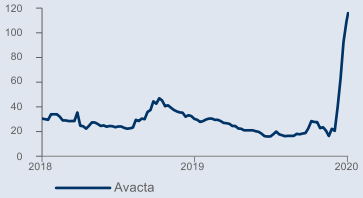
6 May 2020

Corp

Ticker	**AVCT:AIM**
Pharmaceuticals & Biotechnology	
Shares in issue (m)	208.0
Next results	H1 Sept
Price	**116.0p**
Target price	Under review
Upside	n/a
Market cap	**£241.3m**
Net debt/(cash)	-£10.5m
Other EV adjustments	£0.0m
Enterprise value	£230.8m

What's changed?	From	To
Adjusted EPS	-3.5	-4.4
Target price	U/R	n/c

Share price performance



%	1M	3M	12M
Actual	465.9	325.7	283.5

Company description

Developer of Affimer biotherapeutics and research reagents

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Avacta*

FY 2019 results – building substantial incremental value

Full-year results (17 months) to 31 December 2019 were in line with expectations, with a year-end cash balance of £8.8m (FC est. £8.7m). Despite the disruption caused by the COVID-19 pandemic, Avacta has a cash runway into 2022, by which time it should have delivered at least two transformational value inflection points in each of the Therapeutics and Diagnostic business units. Pursuing a proprietary and partnership approach creates potential substantial incremental value, as evidenced by the four therapeutic and three diagnostics partnerships, whilst enabling Avacta to focus on its lead programme, which is now expected to enter Phase I trials in late 2020 or early 2021. We consider Avacta to be at a very exciting point in its evolution, with multiple significant valuation drivers.

- **Results.** A net loss of £15.6m was reported based on revenues of £5.5m (vs. £2.7m) Adjusting for share-based payments, the adjusted net loss amounted to £15.3m. Cash at 31 December 2019 was £8.8m**,** which together with the April fundraise (£5.4m) and projected R&D tax rebate (£2.5m), provides a cash runway into 2022.
- **Therapeutics – transformational year.** Avacta now expects, given COVID-related issues, to file a CTA in Q3 2020 for AVA6000 with the intention to start a Phase I trial in late 2020 or early 2021, potentially creating a proprietary blockbuster chemotherapy for advanced soft tissue sarcoma and other cancers, and validating the pre|CISION technology in humans. Avacta has identified a second asset, having generated interesting animal efficacy data in pancreatic cancer model, to potentially take into the clinic in late 2021 if funding is available. A further 9 targeted chemotherapies have also been formulated whilst first TMAC animal data is also very encouraging.
- **Diagnostics – significant commercial progress.** The SARS-CoV-2 antigen test collaboration with Cytiva has highlighted the power of the Affimer platform to generate diagnostic reagents quickly, and with high specificity. Additionally, it has c.20 ongoing evaluations with diagnostic partners, all off which have the potential to deliver licensing deals. Five of these have concluded well and are moving to licensing discussions.
- **Outlook.** The near-term outlook is dominated by the prospect of launching a SARS-CoV-2 mass screening point-of-care antigen test, using a lateral flow device, in the summer, the demand for which is likely to be in the 10s of millions.
- **Forecasts and valuation.** We have made minor changes to FY 2020 forecasts and leave our target price under review. Modelling the potential impact of a COVID-19 antigen test with any degree of confidence at the moment is not possible; however, the upside, if a successful test(s) is/are developed is/are considered substantial, as illustrated by the £250m+ incremental value created by Novacyt's COVID PCR test.

Key estimates		2016A	2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Jul	Dec	Dec
Revenue	£m	2.2	2.7	2.8	5.5	4.9
Adj EBITDA	£m	-4.7	-6.0	-7.4	-13.7	-8.7
Adj EBIT	£m	-5.4	-7.6	-10.2	-17.7	-10.9
Adj PBT	£m	-5.3	-7.5	-10.2	-17.7	-11.0
Adj EPS	p	-6.3	-8.9	-12.3	-11.7	-4.4
DPS	p	0.0	0.0	0.0	0.0	0.0
Key valuation metrics						
EV/EBIT (adj)	x	-42.8	-30.4	-22.5	-13.0	-21.2
P/E (adj)	x	-18.5	-13.1	-9.4	-9.9	-26.5
Dividend yield	%	0.0%	0.0%	0.0%	0.0%	0.0%
Free cash yield	%	-3.7%	-2.6%	-3.3%	-6.3%	-2.8%
Pre-tax ROCE	%	-15.0%	-25.4%	-47.9%	-68.5%	-49.7%

FY 2019 results – building substantial incremental value

Income statement		2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Dec	Dec
Sales	£m	2.7	2.8	5.5	4.9
Gross profit	£m	1.8	1.9	4.1	3.8
EBITDA (adjusted)	£m	-6.0	-7.4	-13.7	-8.7
EBIT (adjusted)	**£m**	**-7.6**	**-10.2**	**-17.7**	**-10.9**
Associates/other	£m	0.0	0.0	0.0	0.0
Net interest	£m	0.1	0.0	-0.0	-0.1
PBT (adjusted)	**£m**	**-7.5**	**-10.2**	**-17.7**	**-11.0**
Total adjustments	£m	-0.4	-0.2	-0.3	-0.3
PBT (stated)	£m	-7.9	-10.4	-18.1	-11.3
Tax charge	£m	1.5	1.6	2.4	2.0
Minorities	£m	0.0	0.0	0.0	0.0
Reported earnings	£m	-6.4	-8.8	-15.6	-9.3
Adjusted earnings	**£m**	**-6.0**	**-8.6**	**-15.3**	**-9.0**
Shares in issue (year end)	m	69.0	69.0	176.0	208.0
EPS (stated)	p	-9.8	-13.5	-13.0	-4.8
EPS (adjusted, fully diluted)	**p**	**-8.9**	**-12.3**	**-11.7**	**-4.4**
DPS	**p**	**0.0**	**0.0**	**0.0**	**0.0**

Growth analysis		2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Dec	Dec
Sales growth	%	26.3%	1.0%	99.5%	-11.0%
EBITDA growth	%	-27.4%	-22.9%	-85.9%	36.7%
EBIT growth	%	-40.9%	-34.9%	-72.6%	38.4%
PBT growth	%	-41.8%	-36.0%	-73.6%	38.2%
EPS growth	%	-41.9%	-38.8%	5.3%	62.5%
DPS growth	%	n/m	n/m	n/m	n/m

Profitability analysis		2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Dec	Dec
Gross margin	%	65.6%	67.7%	73.9%	77.7%
EBITDA margin	%	-219.8%	-267.5%	-249.3%	-177.4%
EBIT margin	%	-277.7%	-370.9%	-321.0%	-222.2%
PBT margin	%	-274.5%	-369.4%	-321.4%	-223.5%
Net margin	%	-218.7%	-312.9%	-277.2%	-182.7%

Cash flow		2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Dec	Dec
EBITDA	£m	-6.4	-7.6	-14.1	-9.0
Net change in working capital	£m	-0.1	0.3	-0.7	0.2
Other operating items	£m	0.4	0.5	0.4	0.3
Cash flow from op. activities	**£m**	**-6.1**	**-6.8**	**-14.4**	**-8.5**
Cash interest	£m	0.1	0.0	0.1	-0.1
Cash tax	£m	1.7	1.3	1.6	2.4
Capex	£m	-2.1	-2.5	-2.5	-0.7
Free cash flow	**£m**	**-6.4**	**-8.0**	**-15.3**	**-6.8**
Acquisitions / disposals	£m	0.0	0.0	0.0	0.0
Dividends	£m	0.0	0.0	0.0	0.0
Shares issued	£m	0.0	0.0	19.3	5.4
Other	£m	0.0	0.0	-1.8	-0.2
Net change in cash flow	**£m**	**-6.4**	**-7.9**	**2.3**	**-1.7**
Opening net cash (debt)	£m	19.5	13.2	6.5	8.8
Closing net cash (debt)	**£m**	**13.2**	**5.2**	**8.8**	**7.1**

Cash flow analysis		2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Dec	Dec
Cash conv'n (op cash / EBITDA)	%	n/m	n/m	n/m	n/m
Cash conv'n (FCF / EBITDA)	%	99.5%	105.5%	108.4%	75.9%
U/lying FCF (capex = depn)	£m	-5.8	-8.3	-16.7	-8.3
Cash quality (u/l FCF / adj earn)	%	97.4%	96.3%	109.2%	93.0%
Investment rate (capex / depn)	x	2.3	2.6	1.5	0.7
Interest cash cover	x	net cash	net cash	net cash	n/a
Dividend cash cover	x	n/a	n/a	n/a	n/a

Working capital analysis		2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Dec	Dec
Net working capital / sales	%	4.1%	-20.4%	8.3%	-10.3%
Net working capital / sales	days	15	-75	30	-38
Inventory (days)	days	21	25	10	23
Receivables (days)	days	170	170	138	186
Payables (days)	days	177	269	118	247

Balance sheet		2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Dec	Dec
Tangible fixed assets	£m	3.5	3.1	2.3	1.6
Goodwill & other intangibles	£m	12.3	12.2	11.8	11.1
Other non current assets	£m	0.0	0.0	0.8	0.6
Net working capital	£m	0.1	-0.6	0.5	-0.5
Other assets	£m	1.2	1.5	2.5	2.9
Other liabilities	£m	-0.3	0.0	-0.8	-0.8
Gross cash & cash equivs	£m	13.2	5.2	8.8	7.1
Capital employed	**£m**	**29.9**	**21.4**	**25.8**	**21.9**
Gross debt	£m	0.0	0.0	0.0	0.0
Net pension liability	£m	0.0	0.0	0.0	0.0
Shareholders equity	£m	29.9	21.4	25.8	21.9
Minorities	£m	0.0	0.0	0.0	0.0
Capital employed	**£m**	**29.9**	**21.4**	**25.8**	**21.9**

Leverage analysis		2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Dec	Dec
Net debt / equity	%	no debt	no debt	no debt	no debt
Net debt / EBITDA	x	n/a	n/a	n/a	n/a
Liabilities / capital employed	%	0.0%	0.0%	0.0%	0.0%

Capital efficiency & intrinsic value		2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Dec	Dec
Adjusted return on equity	%	-20.0%	-40.4%	-59.2%	-40.9%
RoCE (EBIT basis, pre-tax)	%	-25.4%	-47.9%	-68.5%	-49.7%
RoCE (u/lying FCF basis)	%	-19.5%	-38.9%	-64.7%	-38.0%
NAV per share	p	43.3	31.0	14.7	10.5
NTA per share	p	25.5	13.3	8.0	5.2

FY results analysis: 17 months to 31 December 2019

Avacta reported its preliminary results for the 17 months to 31 December 2019 (Figure 1). It will revert to a 12-month reporting period in subsequent years.

Figure 1: Summary profit & loss account

Period end (£m)	2018	2019E	2019	Delta from forecast (£m)
Revenue	**2.8**	**5.5**	**5.5**	**0.0**
Cost of Goods Sold	-0.9	-1.3	-1.4	-0.1
Gross Profit	**1.9**	**4.2**	**4.1**	**-0.1**
gross margin	67.7%	76.2%	73.9%	0.0
Research & Development	-2.8	-7.7	-7.9	
Amortisation of development	-1.0	-2.2	-2.2	
Administrative expenses	-7.2	-9.9	-10.1	
Depreciation	-1.0	-1.6	-1.6	
Share based payment	-0.3	-0.3	-0.3	
Total costs	**-12.3**	**-21.8**	**-22.1**	**-0.3**
Company Stated EBIT	**-10.4**	**-17.6**	**-18.0**	**-0.4**
Share based payment	0.2	0.5	0.3	
Adjusted EBIT	**-10.2**	**-17.0**	**-17.7**	**-0.6**
add back depreciation	1.0	1.4	1.6	0.3
add back amortisation	1.9	1.6	2.3	0.7
Adjusted EBITDA	**-7.4**	**-14.1**	**-13.7**	**0.3**
Finance income	0.0	0.0	0.1	0.0
Profit Before Tax	-10.4	-17.6	-18.1	-0.5
Adjusted Profit before tax	**-10.2**	**-17.0**	**-17.7**	**-0.7**
Taxation	1.6	1.4	2.4	1.0
Net Profit	-8.8	-16.1	-15.6	0.5
Adjusted Net Profit	**-8.6**	**-15.6**	**-15.3**	**0.3**
Average shares in issue (m)	65.4	114.8	120.3	5.6
Fully diluted shares in issue (m)	70.1	117.0	130.9	13.9
Earnings per Share (EPS) p	-13.5	-14.0	-13.0	1.1
Adj. EPS (p)	-13.2	-13.6	-12.7	0.9
Adj. Fully Diluted EPS (p)	**-12.3**	**-13.3**	**-11.7**	**1.6**

Source: finnCap

- Revenues increased 49% to £5.5m in FY 2020, in line with expectations:
  - Avacta Life Sciences revenues increased to £3.3m (vs. £1.2m), which included and upfront technology access from the LG Chem ($2.5m) and increasing numbers of custom Affimer projects and funded FTE development projects.
  - Avacta Animal Health revenues increased to £2.2m (vs. £1.6m).
- Total R&D spend amounted to £12.0m (vs. £5.7m).
  - R&D expenses relating to its therapeutic programmes, which were are expensed through the P&L, increased to £7.9m (£2.8m) reflecting Avacta's proprietary Affimer therapeutic programmes.
  - Amortisation of previously capitalised development costs relating to custom Affimer reagents and diagnostics programmes and new Animal Health allergy tests increased to £2.2m (£1.0m).
  - Additional development costs, primarily relating to Diagnostics, were £1.9m (vs. £1.9m) and were capitalised within intangible assets.
- Administrative expenses increased to £10.1m (£7.2m), which was broadly flat on a monthly basis compared with FY 2018.
- Depreciation for the 17 months was £1.6m (vs £1.0m).

- Adjusted EBITDA losses, consequently, were £13.7m, which compared with £7.4m in the 12 months FY 2018 and our estimate of £14.1m loss.
- A net loss of £15.6m, which included a £2.4m R&D tax credit (our forecasts assumed £1.4m) was £0.5m better than our forecast for a net loss of £16.1m. Adjusting for share-based payments, the adjusted net loss amounted to £15.3m, which compared with £8.6m in FY 2018 and our estimate of a £15.6m loss.

Balance sheet and cashflow

Cash at 31 December 2019 was £8.8m, which compares with £5.2m at 31 July 2018 and our forecast of £8.7m (Figure 2).

Figure 2: Summary cashflow

Period end (£m)	2018	2019E	2019A	Delta from forecast (£m)
EBITDA	-7.6	-14.6	-14.1	0.5
Net change in working capital	0.3	-1.4	-0.7	0.6
Share based payments	0.3	0.5	0.3	-0.2
Profit/(loss) on sale of assets	0.0	0.0	0.0	0.0
Other items	0.2	0.0	0.0	0.0
Cash flow from operating activities	**-6.8**	**-15.4**	**-14.4**	**1.0**
Cash interest	0.0	0.1	0.1	0.0
Tax paid	1.3	1.6	1.6	0.0
Capex	-2.5	-2.1	-2.5	-0.5
Free cash flow	**-8.0**	**-15.8**	**-15.3**	**0.6**
Other cash flow items	0.0	-1.3	-1.8	-0.5
Issue of share capital	0.0	19.3	19.3	0.0
Net change in cash flow	**-7.9**	**2.2**	**2.3**	**0.1**
Opening net cash (debt)	13.2	6.5	6.5	0.0
Closing net cash (debt)	**5.2**	**8.7**	**8.8**	**0.1**

Source: finnCap

- Cash outflow from operations increased from £6.8m to £14.4m for the 17-month period and was £1.0m better than forecast.
- Tax receipts relate to the R&D tax credits for which Avacta qualifies. In FY 2019, these were £1.6m (vs. £1.3m). We expect c.£2.4m of tax credits in FY 2020.
- Avacta capitalises some development costs for Affimer reagents and diagnostics as well as for Animal Health. These amounted to £1.9m in FY 2019 (vs. £1.9m in FY 2018). Together with £0.6m of capital expenditure, total capex was £2.5m and c.£0.5m higher than expected. We expect total expenditure in FY 2020 to be c.£0.7m.
- Free cash outflow, consequently was c.£0.5 better than expected at £15.3m, which compared with an outflow of £8.0m in FY 2018.
- The placing of shares in August 2018 and November 2019, raised £10.9m (net of expenses) and £8.4m (net), respectively, resulting in a net inflow of funds of £2.3m in FY 2019 and net cash balances at 31 December 2019 of £8.8m.

Following a fundraise in April 2020 of £5.35m (net) and together with an R&D tax refund of c.£2.5m (expected in late Q3/early Q4 2020), Avacta considers the cash runway to extend into 2022.

Therapeutics

Avacta Life Sciences has been separated into two distinct operating segments, reflecting the Therapeutics operations based at Avacta's Cambridge site and the Diagnostics operations at Wetherby. Accordingly, it reported the operating loss for both units in the full year results.

We expect revenues to be c.£3.0m in FY 2020, reflecting the increased revenues (FTE) as well as licence-related income from its partners, namely LG Chem, Daewoong Pharmaceutical and ADC Therapeutics. We estimate a LBITDA of c.£5.2m in FY 2020 (Figure 3) with R&D activities primarily focused on taking its lead asset, AVA6000 into Phase I clinical trials towards the end of 2020.

Figure 3: Therapeutics – segment income (excludes central costs)

Period end (£m)	July 2018	Dec 2019	Dec 2020E
Revenue	**0.85**	**2.52**	**3.00**
Cost of sales	-0.23	-0.28	-0.60
Gross Profit	**0.62**	**2.23**	**2.40**
Gross margin %	*73.0%*	*88.7%*	*80.0%*
Research costs	-2.65	-7.24	-5.50
Amortisation of development costs	0.00	0.00	0.00
Selling, general and administrative	-1.02	-2.27	-1.30
Depreciation	-0.41	-0.68	-0.60
Share based charge	-0.07	-0.10	-0.10
Operating profit (pre amortisation/SBP)	**-3.53**	**-8.06**	**-5.10**
add back depreciation	0.41	0.68	0.60
add back amortisation	0.00	0.00	0.00
EBITDA	**-3.60**	**-8.16**	**-5.20**

Source: finnCap

Avacta is successfully pursuing a proprietary/partnership drug development approach to generate substantial long term value, typical of many platform therapeutic companies. Avacta has made substantial progress over the past year in its two proprietary platform capabilities, namely pre|CISION™ pro-drugs and TMAC™.

pre|CISION pro-drugs

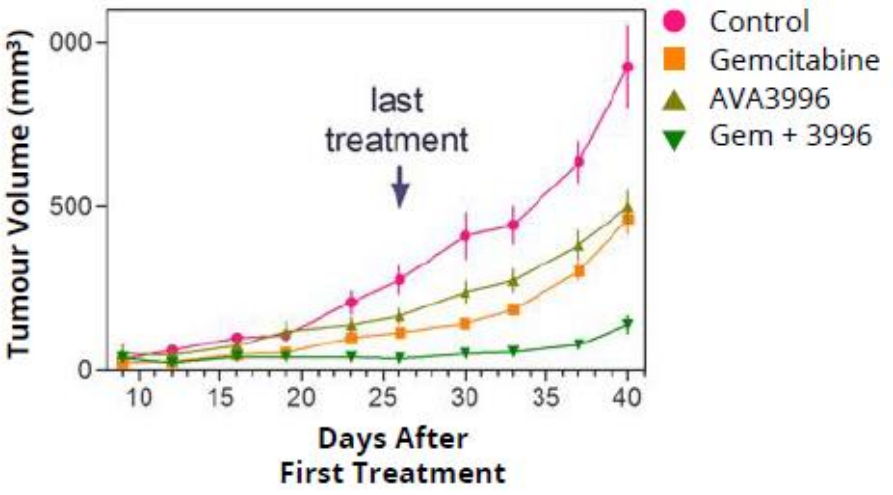
Based on IP exclusively licensed from Tufts University, pre|CISION drugs are designed to address dose-limiting toxicities and side-effects across a wide range of drug classes by activating the and existing and established drug only in the presence of the FAPα enzyme, which is primarily found in the tumour microenvironment. Avacta expects to file a CTA for its lead asset (AVA6000) in Q3 2020, a slight delay caused by COVID-related challenges. Avacta also confirmed that it has generated an additional pipeline of more than ten pre|CISION chemotherapies with the most advanced of these, a pre|CISION proteasome inhibitor (AVA3996), is potentially c.12 months from IND filing:

- **AVA6000 doxorubicin**. Clinical trials in the UK have been largely halted due to pressure on hospital resources resulting from the COVID crisis. Despite this, Avacta has made good progress towards CTA filing and drug product manufacture. With clinical trial sites expected to come back on stream as the COVID-19 lockdown eases, Avacta expects to file a CTA in Q3 2020 with the intention to start a Phase I in late 2020 or, more likely, early in 2021. The aim is to show that the cardiotoxicity of this $1bn global annual revenue generic drug is significantly reduced, potentially creating a proprietary, blockbuster chemotherapy for advanced soft tissue sarcoma, as well as other cancers, and validating the pre|CISION technology in humans (see below).
- **AVA3996e** is Avacta's second pre|CISION drug candidate. It is a form of a proteasome inhibitor closely related to Velcade. Avacta is in the early stage of building a preclinical package for this asset with PK and efficacy data having already been generated that demonstrate encouraging efficacy data in a HPAFII (FAP+) pancreatic cancer human xenograft mouse model. In this case AVA3996 significantly reduced tumour burden

compared to the control group and when combined with standard of care (gemcitabine) shows complete tumour regression (Figure 4).

- Avacta has generated a pipeline of pre|CISION tumour FAPα activated pro-drugs that include gemcitabine, capecitabine, taxanes, PARP inhibitors, platins, small molecule PD-1 inhibitor, AKT inhibitors (FAP-activated MK-2206) and balixafortide.

Figure 4: Efficacy Data for AVA3996 in Pancreatic Cancer Human Xenograft Mouse Model



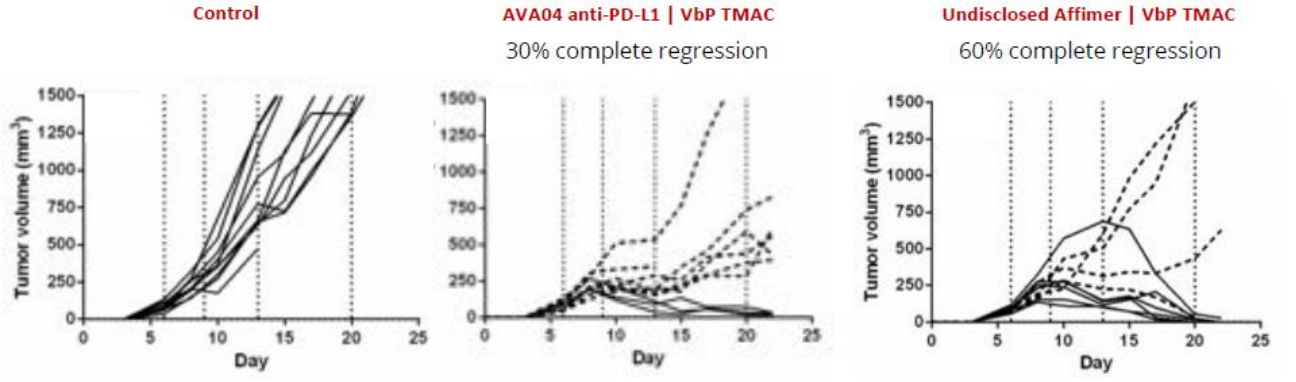
Source: Avacta

Tumour Microenvironment Activated Drug Conjugates (TMAC™)

As previously described, TMACs (Affimer linked to drug) are intended to target and release pro-inflammatory drugs in the tumour microenvironment, and in doing so synergise the innate and adaptive immune response to attack the tumour.

Avacta presented new data that demonstrated compelling proof of concept in a colorectal tumour model (CT26), which is renowned as a tough, "cold" tumour, model in which PD-L1 monotherapies perform less well as well as being resistant to combination chemotherapy. In this study AVA04-VbP TMACs (using PD-L1 Affimer) saw complete regression of the tumour in 30% of mice whilst an undisclosed Affimer VbP TMAC produced full regression in 60% of the mice (Figure 5) went into regression. Moreover, the National Cancer Institute also showed that these TMACs generated a T-cell mediated immunity, re-challenging the mice with the same tumour more than a month after drug dosing has stopped.

Figure 5: TMAC animal efficacy data in a CT26 colorectal xenograft tumour model



Source: Avacta

Further pre-clinical and IND enabling studies will be conducted to support clinical candidate selection in 2021.

Partnership programmes

To date, Avacta has established licensing agreements with four pharmaceutical and biotech companies all of Avacta's being fully funded by the respective companies. We expect Avacta to announce further such fully funded partnerships and licensing deals over time, and in so doing generating further incremental value that complements its development programme of proprietary assets.

Figure 6: Partnership programmes

Date	Company	Description	Next milestone
2020	Daewoong Pharmaceutical	JV company, AffyXell, established to generate next generation stem cell therapies that secrete immuno-modulatory Affimer proteins, in which Avacta owns 45%. The first three candidate programmes are underway along with the generation of GMP-compliant banks of mesenchymal stem cells to be engineered to express the Affimers at the site of inflammation.	H2 2020: Affimers generated against first three targets. Series B funding for AffyXell
2019	ADC Therapeutics	Three target deal to develop Affimer-drug conjugates incorporating proprietary PBD (licensed from AstraZeneca). Fully funded by ADCT with development milestone and royalties. ADCT has selected its first target.	H2 2020: Affimers generated against first target. H2 2020/2021: Option payments to take Affimer candidates into development.
2018	LG Chem	Multi-target development partnership and licensing deal worth up to $310m with $2.5m upfront, $5m in near-term milestones, royalties and full research costs. LG Chem has selected two additional targets (a new therapeutic target and a PK/ADME modifier)	H2 2020: Affimer candidates against 2nd and 3rd targets. 2020/2021: multiple pre-clinical milestones up to $5m. 2021/2022: first IND filing milestone (undisclosed).
2015	Moderna Therapeutics	Multi-target research collaboration to develop Affimer drug candidates for mRNA delivery. Commercial option exercised by Moderna in 1Q 2019 to take one or more Affimer lead molecules against one target into clinical development.	Moderna to complete IND enabling studies and file IND, the timing of which is at Moderna's discretion but will trigger an undisclosed milestone.

Source: finnCap

Diagnostics

Following the separation of Diagnostics into a separate business unit, we provide below our forecasts for this business. We expect revenues to be c.£0.8m in the 12 months, reflecting the strong 2019 year-end order book and growing recognition of the value of Avacta's platform capabilities. It excludes the potential for any milestones that might arise from of licensing activities. We estimate a LBITDA of c.£5.1m in FY 2020.

Figure 7: Diagnostics – segment income (excludes central costs)

Period end (£m)	July 2018	Dec 2019	Dec 2020E
Revenue	**0.35**	**0.81**	**0.80**
Cost of sales	-0.14	-0.45	-0.40
Gross Profit	**0.21**	**0.36**	**0.40**
Gross margin %	*60.0%*	*44.1%*	*50.0%*
Research costs	0.00	-0.62	-0.46
Amortisation of development costs	-0.68	-1.60	-1.00
Selling, general and administrative	-2.54	-3.61	-2.67
Depreciation	-0.51	-0.61	-0.30
Share based charge	-0.09	-0.06	-0.05
Operating profit)	**-3.61**	**-6.13**	**-4.03**
add back depreciation	0.51	0.61	0.30
add back amortisation	0.68	1.60	1.00
EBITDA	**-2.43**	**-7.79**	**-5.08**

Source: finnCap

Avacta has built a substantial pipeline of commercial diagnostics assay opportunities, the first of which are moving to licensing. The order book at 31 December 2019 amounted to £0.5m, which compared with c.£0.2m at 31 December 2018. The key drivers of value within Diagnostics are identified as:

- **Affimer evaluations**. It has about 30 projects with diagnostic and pharmaceutical partners including four out of the top ten global diagnostics companies. Most of these evaluations have the potential to deliver licensing deals similar to the one established with New England Biolabs (Q4 2018) – ie milestones and a long-term royalty stream – and five have now successfully concluded and are in the licensing discussion phase.
- **Proprietary Affimer diagnostics assays** (Figure 8). Having developed a small number of assays, Avacta intends to put these out to large diagnostics companies for evaluation and subsequent out-license. All assays address potentially large markets and include sepsis, fertility (E2), thrombosis and pulmonary embolism (D-Dimer) and Vitamin B12.
- **Bespoke Affimer binders for third parties**. These are for use in R&D applications; for example, anti-idiotypic Affimer binders to monoclonal antibodies. Every antibody drug in development (estimated to >2,000) requires a reagent for PK measurements. Each project is worth c.£40,000. It is not inconceivable that Avacta could undertake 10 such projects in 2020, implying revenues of £0.4m.
- **SARS-CoV-2 antigen tests**. In response to the COVID-19 pandemic and the need for testing to enable countries to exit lockdowns, Avacta has formed partnerships with companies that can help facilitate the rapid deployment of its technology. Avacta owns all commercialisation rights to Affimers.
  - Collaboration with Cytiva (formerly GE Healthcare Life Sciences) to develop a rapid point-of-care saliva test for the virus antigen that will be suitable for mass screening of populations for COVID 19 infection for which there are few POC tests in development. FIND (Foundation for Innovative New Diagnostics) is evaluating only five rapid antigen immunoassays relying on antibodies generated against the viral spike protein. Avacta has identified more than 50 Affimers that are highly specific to the SARS-CoV-2 spike protein with no cross-reactivity to SARS, MERS or other related coronaviruses. Cytiva aims to develop prototype lateral flow tests over the next few weeks with the aim for Avacta to have validated and CE marked the test

for professional and consumer use as soon as possible in the summer. Avacta intends to provide Affimers to other manufacturers to de-risk supply, provide geographic coverage and to ensure that there is sufficient capacity to meet the anticipated demand, which arguably could run into the 10s of millions of tests.

- Collaboration agreement with Adeptrix to develop an Affimer-based BAMS coronavirus antigen test, to be run on the existing hospital installed base of mass spectrometers, thus enabling a significant expansion of the available testing capacity for COVID-19 infection, which is primarily using PCR technology.
- Avacta confirmed that it is also in discussion with other commercial partners to provide access to the SARS-CoV-2 Affimer reagents to develop and commercialise other forms of diagnostic tests.

Figure 8: Diagnostic assays in development or ready for licencing

Biomarker	Test/Market opportunity	Global Market Size	Status
SARS-CoV-2 antigen	COVID-19 infection: No current rapid point of care antigen test for mass population screening.	Emerging market but expected to be >100 million tests per month.	Collaboration with Cytiva to developed rapid antigen test. Collaboration with Adeptrix to develop a high throughput Affimer-based antigen test using its proprietary bead-assisted mass spectrometry (BAMS™) platform.
TRAIL and CRP	Sepsis. Differentiation between bacterial and viral infection to allow correct clinical decision making around antibiotic prescription.	$1.1bn by 2027, expanding at a CAGR of 9.4% >1.7m adults in US suffer from sepsis, which leads to c.270,000 deaths pa.	Both Affimer tests now available for potential licensees to evaluate for clinical assay development.
Estradiol (E2)	E2 is measured during fertility treatment and menopause. Current tests lack sensitivity and dynamic range and are 'negative-read' assays which makes them harder to interpret.	Estradiol testing is a significant part of the larger endocrine testing market worth $$8.03bn in2018 and expected to reach $15.09bn by 2026, growing at a CAGR of 8.1%.	Affimer-based positive read-assay with good sensitivity and dynamic range now available for evaluation by potential licensees.
D-Dimer	A cardiac marker used to detect thromboses such as pulmonary embolism. Current tests lack specificity and are not suitable for point-of-care.	$2.0bn by 2025, growing at a CAGR o 2.5%, primarily driven by increased coagulation and haemostasis testing worldwide.	A label-free assay has been developed, which can be evaluated by potential licensees. Work ongoing to develop an agglutination assay.
Vitamin B12	Vitamin B12 deficiency can cause anaemia, and may cause severe and irreversible damage to the brain and nervous system. Current widely used blood test only measures the total amount of vitamin B12 in your blood whether it is active or not.	The global active B12 test market is expected to grow at a CAGR of 7.2% to reach $220m by 2023.	Affimer reagents that detect 'active' VitB12 with complete freedom-to-operate around existing antibody IP held by Abbott. Assay development completing in near future.

Source: Avacta

Animal Health

The Animal Health business unit is reported to have seen a slow down as a result of the COVID pandemic as veterinary practices focus on emergency cases, with more routine appointments in relation to allergy or therapy testing being put on hold given the current limitations of travel on the UK population

Consequently, we expect revenues in FY 2020 to be c.£1.1m (previously £1.5m). With c.67% of staff temporarily furloughed and lower travel and marketing costs incurred during the lockdown, we expect full year LBITDA, nevertheless, to be managed accordingly and expect a loss of c.£0.3m, which is similar to previous years.

Figure 9: Animal Health – segment income (excludes central costs)

Period end (£m)	July 2018	Dec 2019	Dec 2020E
Revenue	**1.57**	**2.18**	**1.10**
Cost of sales	-0.53	-0.70	-0.36
Gross Profit	**1.04**	**1.48**	**0.74**
Gross margin %	*66.5%*	*67.9%*	*67.0%*
Research costs	-0.15	0.00	0.00
Amortisation of development costs	-0.31	-0.60	-0.25
Selling, general and administrative	-1.18	-1.78	-1.00
Depreciation	-0.05	-0.05	-0.05
Share based charge	-0.03	-0.03	-0.03
Operating profit	**-0.68**	**-0.98**	**-0.59**
add back depreciation	0.05	0.05	0.05
add back amortisation	0.31	0.60	0.25
EBITDA	**-0.32**	**-0.33**	**-0.29**

Source: finnCap

Forecasts

Avacta intends to advance the Affimer immunotherapy pipeline only where it is funded by third parties, eg. LG Chem, Daewoong Pharmaceutical and ADC Therapeutics, as it focuses near-term on progressing its lead proprietary asset, AVA6000 pro-doxorubicin, to the clinic in late 2020. This will reduce a substantial portion of the company's potential cash burn if it were to devote resources to exploit fully its proprietary immune-oncology portfolio of assets (including both pre|CISION and TMAC platform assets). Given the impact of COVID-19 to both demand (Animal Health) and costs (mindful of social distancing practices and ensuring staff safety), we have made the following changes to forecasts for FY 2020.

- Revenues are reduced by £0.2m, with Animal Health c.£0.4m lower at £1.1m being offset by higher diagnostic revenues (+c.£0.2m higher than expected at £0.8m).
- Operational expenses (excluding depreciation, amortisation and share based payments) are expected to be c.£1.4m higher than previously forecast at £12.5m:
  - Research and development costs relate primarily to the completion of the Phase I study for AVA6000 and are forecast to be c.£6.0m, which compares with our previous forecast of $5.4m.
  - SG&A expenses are expected to be £6.5m, which compares with previous forecast of £5.7m
- Amortisation of capitalised development is unchanged at £1.2m.
- Depreciation is unchanged at c.£1.0m
- Share based payments are reduced to c.£0.3m from £0.5m.
- Adjusted pre-tax loss increases by £2.3m to £11.3m
- Adjusted net income is forecast to be £9.0m, an increase of £2.1m over previous forecasts and reflecting receipt of a c.£2.0m R&D tax credit.

Net cash at 31 December 2020 is estimated £7.2m, which provides Avacta with a cash runway into 2022, given that cash burn is expected to reduce from £6.7m in FY 2020 as costs associated with the development of AVA6000 fall away.

Figure 10: Forecast changes

Year ending December (£m)	2020		
	Old	New	Delta
Revenue	5.1	4.9	-0.2
Gross Profit	4.3	3.8	-0.4
Opex	-11.2	-12.5	-1.4
EBITDA (adj)	**-6.9**	**-8.7**	**-1.8**
EBIT (adj)	-9.0	-10.9	-1.9
Pre-tax profit (adj)	-8.9	-11.3	-2.3
Net income (adj)	-6.9	9.0	-2.1
EPS - adj (p)	-3.5	-4.4	-0.8
Operating Cash Flow	-6.6	-8.5	-1.9
Group Free Cash Flow	**-5.5**	**-6.7**	**-1.3**
Change in Net Cash/(Debt)	0.0	-1.6	-1.6
Year End Net Cash/(Debt)	**8.7**	**7.2**	**-1.5**

Source: finnCap

We expect to be in a better position to include forecasts for FY 2021 at the time of its interims in September, when we should have greater visibility over:

- The easing of restrictions pertaining to clinical trials and the exact phasing of R&D costs associated with the Phase I trial for AVA6000.
- The demand for its SARS-CoV-2 antigen tests in development with Cytiva (POC SARS-COo-2 test) and Adeptrix (lab based antigen test, using mass spectrometer).
- The commercial terms of the partnerships with Cytiva (POC SARS-CoV-2 test) and Adeptrix (lab based antigen test, using mass spectrometer).

Valuation

We are leaving our target price under review as modelling the potential impact of a COVID-19 antigen test with any degree of confidence at the moment is not possible. Suffice to say, if Avacta is able to successfully develop a test(s) in the time frame indicated (CE mark and launch in summer) the valuation upside is considered substantial, however, as illustrated by the £250m+ incremental value created by Novacyt's COVID PCR test.

Whilst the near-term focus for investors has clearly been the opportunity that a potential COVID-19 antigen mass screening point-of care test creates, the prospect of delivering even greater value from both its proprietary pipeline of targeted chemotherapies (pre|CISION) and enhanced immune-oncology assets (TMACs), albeit with incremental development risk, should not be under-estimated in our view and certainly commands a valuation of c.£150m (previous target valuation), based on comparable companies and the current stage of clinical development.

Income statement		2016A	2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Jul	Dec	Dec
Sales	**£m**	**2.2**	**2.7**	**2.8**	**5.5**	**4.9**
Cost of sales	£m	-0.9	-0.9	-0.9	-1.4	-1.1
Gross profit	**£m**	**1.3**	**1.8**	**1.9**	**4.1**	**3.8**
Operating expenses	£m	-6.0	-7.8	-9.3	-17.8	-12.5
EBITDA (adjusted)	**£m**	**-4.7**	**-6.0**	**-7.4**	**-13.7**	**-8.7**
Depreciation	£m	-0.6	-0.9	-1.0	-1.6	-1.0
Amortisation	£m	-0.1	-0.7	-1.9	-2.3	-1.3
EBIT (adjusted)	**£m**	**-5.4**	**-7.6**	**-10.2**	**-17.7**	**-10.9**
Associates/other	£m	0.0	0.0	0.0	0.0	0.0
Net interest	£m	0.1	0.1	0.0	-0.0	-0.1
PBT (adjusted)	**£m**	**-5.3**	**-7.5**	**-10.2**	**-17.7**	**-11.0**
restructuring costs	*£m*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
share based payments	*£m*	*-0.3*	*-0.4*	*-0.2*	*-0.3*	*-0.3*
other adjustments	*£m*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Total adjustments	£m	-0.3	-0.4	-0.2	-0.3	-0.3
PBT (stated)	**£m**	**-5.6**	**-7.9**	**-10.4**	**-18.1**	**-11.3**
Tax charge	£m	0.9	1.5	1.6	2.4	2.0
tax rate	*%*	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Minorities	£m	0.0	0.0	0.0	0.0	0.0
Reported earnings	**£m**	**-4.6**	**-6.4**	**-8.8**	**-15.6**	**-9.3**
Tax effect of adjustments / other	£m	0.0	0.0	0.0	0.0	0.0
Adjusted earnings	**£m**	**-4.4**	**-6.0**	**-8.6**	**-15.3**	**-9.0**
shares in issue (year end)	*m*	*69.0*	*69.0*	*69.0*	*176.0*	*208.0*
shares in issue (weighted average)	*m*	*67.7*	*65.2*	*65.4*	*120.3*	*194.0*
shares in issue (fully diluted)	*m*	*69.9*	*67.4*	*70.1*	*130.9*	*204.5*
EPS (adjusted, fully diluted)	**p**	**-6.3**	**-8.9**	**-12.3**	**-11.7**	**-4.4**
EPS (stated)	p	-6.9	-9.8	-13.5	-13.0	-4.8
DPS	**p**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Growth analysis (adjusted basis where applicable)						
Sales growth	%	19.4%	26.3%	1.0%	99.5%	-11.0%
EBITDA growth	%	5.5%	-27.4%	-22.9%	-85.9%	36.7%
EBIT growth	%	3.1%	-40.9%	-34.9%	-72.6%	38.4%
PBT growth	%	4.5%	-41.8%	-36.0%	-73.6%	38.2%
EPS growth	%	33.6%	-41.9%	-38.8%	5.3%	62.5%
DPS growth	%	n/m	n/m	n/m	n/m	n/m

Profitability analysis (adjusted basis where applicable)						
Gross margin	%	58.7%	65.6%	67.7%	73.9%	77.7%
EBITDA margin	%	-218.0%	-219.8%	-267.5%	-249.3%	-177.4%
EBIT margin	%	-249.1%	-277.7%	-370.9%	-321.0%	-222.2%
PBT margin	%	-244.5%	-274.5%	-369.4%	-321.4%	-223.5%
Net margin	%	-202.1%	-218.7%	-312.9%	-277.2%	-182.7%

Cash flow		2016A	2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Jul	Dec	Dec
EBITDA	£m	-5.0	-6.4	-7.6	-14.1	-9.0
Net change in working capital	£m	-0.3	-0.1	0.3	-0.7	0.2
Share based payments	£m	0.3	0.4	0.3	0.3	0.3
Profit/(loss) on sale of assets	£m	0.1	0.0	0.0	0.0	0.0
Net pensions charge	£m	0.0	0.0	0.0	0.0	0.0
Change in provision	£m	0.0	0.0	0.0	0.0	0.0
Other items	£m	0.1	0.0	0.2	-0.0	0.0
Cash flow from operating activities	**£m**	**-4.8**	**-6.1**	**-6.8**	**-14.4**	**-8.5**
Cash interest	£m	0.1	0.1	0.0	0.1	-0.1
Tax paid	£m	0.6	1.7	1.3	1.6	2.4
Capex	£m	-4.7	-2.1	-2.5	-2.5	-0.7
Free cash flow	**£m**	**-8.9**	**-6.4**	**-8.0**	**-15.3**	**-6.8**
Disposals	£m	0.0	0.0	0.0	0.0	0.0
Acquisitions	£m	0.0	0.0	0.0	0.0	0.0
Dividends on ord shares	£m	0.0	0.0	0.0	0.0	0.0
Other cashflow items	£m	0.0	0.0	0.0	-1.8	-0.2
Issue of share capital	£m	21.0	0.0	0.0	19.3	5.4
Net change in cash flow	**£m**	**12.2**	**-6.4**	**-7.9**	**2.3**	**-1.7**
Opening net cash (debt)	£m	7.3	19.5	13.2	6.5	8.8
Closing net cash (debt)	**£m**	**19.5**	**13.2**	**5.2**	**8.8**	**7.1**

Cash flow analysis						
Cash conversion (op cash flow / EBITDA)	%	n/m	n/m	n/m	n/m	n/m
Cash conversion (free cash flow / EBITDA)	%	177.5%	99.5%	105.5%	108.4%	75.9%
Underlying free cash flow (capex = depreciation)	£m	-4.9	-5.8	-8.3	-16.7	-8.3
Cash quality (underlying FCF / adjusted earnings)	%	111.0%	97.4%	96.3%	109.2%	93.0%
Investment rate (capex / depn)	x	7.7	2.3	2.6	1.5	0.7
Interest cash cover	x	net cash	net cash	net cash	net cash	n/a
Dividend cash cover	x	n/a	n/a	n/a	n/a	n/a

Balance sheet		2016A	2017A	2018A	2019A	2020E
Year end:		Jul	Jul	Jul	Dec	Dec
Tangible fixed assets	£m	3.7	3.5	3.1	2.3	1.6
Goodwill	£m	0.0	0.0	0.0	0.0	0.0
Other intangibles	£m	11.5	12.3	12.2	11.8	11.1
Other non current assets	£m	0.0	0.0	0.0	0.8	0.6
inventories	*£m*	*0.3*	*0.2*	*0.2*	*0.2*	*0.3*
trade receivables	*£m*	*1.1*	*1.3*	*1.3*	*2.1*	*2.5*
trade payables	*£m*	*-1.4*	*-1.3*	*-2.0*	*-1.8*	*-3.3*
Net working capital	£m	0.0	0.1	-0.6	0.5	-0.5
Other assets	£m	1.4	1.2	1.5	2.5	2.9
Other liabilities	£m	-0.3	-0.3	0.0	-0.8	-0.8
Gross cash & cash equivalents	£m	19.5	13.2	5.2	8.8	7.1
Capital employed	**£m**	**35.9**	**29.9**	**21.4**	**25.8**	**21.9**
Gross debt	£m	0.0	0.0	0.0	0.0	0.0
Net pension liability	£m	0.0	0.0	0.0	0.0	0.0
Shareholders equity	£m	35.9	29.9	21.4	25.8	21.9
Minorities	£m	0.0	0.0	0.0	0.0	0.0
Capital employed	**£m**	**35.9**	**29.9**	**21.4**	**25.8**	**21.9**

Leverage analysis						
Net debt / equity	%	no debt	no debt	no debt	no debt	no debt
Net debt / EBITDA	x	n/a	n/a	n/a	n/a	n/a
Liabilities / capital employed	%	0.0%	0.0%	0.0%	0.0%	0.0%

Working capital analysis						
Net working capital / sales	%	1.8%	4.1%	-20.4%	8.3%	-10.3%
Net working capital / sales	days	7	15	-75	30	-38
Inventory (days)	days	45	21	25	10	23
Receivables (days)	days	190	170	170	138	186
Payables (days)	days	229	177	269	118	247

Capital efficiency & intrinsic value						
Adjusted return on equity	%	-12.2%	-20.0%	-40.4%	-59.2%	-40.9%
RoCE (EBIT basis, pre-tax)	%	-15.0%	-25.4%	-47.9%	-68.5%	-49.7%
RoCE (underlying free cash flow basis)	%	-13.5%	-19.5%	-38.9%	-64.7%	-38.0%
NAV per share	p	52.0	43.3	31.0	14.7	10.5
NTA per share	p	35.3	25.5	13.3	8.0	5.2

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