

**Market data**

EPIC/TKR	AVO
Price (p)	21.0
12m High (p)	120.0
12m Low (p)	9.5
Shares (m)	80.9
Mkt Cap (£m)	17.0
EV (£m)	16.1
Free Float*	59%
Market	AIM

*As defined by AIM Rule 26

Description

Developing next generation proton therapy systems for use in radiation therapy of cancers. The first system is expected to be installed in Harley Street, London during 2019; to be operated through a joint venture company with CircleHealth.

Company information

Exec. Chairman	Michael Sinclair
CEO	Nicolas Serandour

+44 203 617 8728

www.advancedoncotherapy.com**Key shareholders**

Board & Management	21.7%
Brahma AG	13.4%
MK Trust	6.0%
Hargreaves Lansdown	5.7%
AB Segulah	5.4%
Banca Profilo	4.6%

Diary

Sept-17	Interims
3Q/4Q 17	PPS newsflow
4Q 17	Beam through SCDTLs

Analysts

Martin Hall	020 7194 7632	mh@hardmanandco.com
Dorothea Hill	020 7194 7626	dmh@hardmanandco.com
Gregoire Pave	020 7194 7628	gp@hardmanandco.com

Advanced Oncotherapy

Technology advances & stronger balance sheet

AVO is focused on delivering a more affordable, novel, proton-based radiotherapy system, based on technology originally developed at the world renowned CERN. The company is entering an exciting stage with construction of its Harley Street site well underway and on schedule, with the site expected to be ready for installation by end 1H'19. While the interim results provide a commercial and financial update, AVO continues its progress in accelerating the proton beam and is on-track in building a machine capable of treating superficial tumours by 3Q'18. The financing has been on a rocky road but confidence is building up as the proton accelerates.

- **Strategy:** To develop a proton therapy system at an affordable price for the payor, financially attractive to the operator, whilst generating superior patient outcomes. AVO benefits from the technology know-how developed by ADAM, a CERN spin-off, and leverage world-class suppliers for manufacturing.
- **Interims:** AVO is on track to hit the milestones set during the Investor Presentation back in March 2017. Two milestones have already been reached. Also, the Harley Street site is progressing apace and the LIGHT machine is taking shape with the third element, from a total of four, being integrated.
- **Integration:** AVO is now progressing with integration of the different modules, with three of the four main accelerating elements already integrated. With less technically challenging units now being integrated, the LIGHT project is being increasingly de-risked. Acceleration of the proton beam continues apace.
- **Financing:** Cash of £0.23m on the 30th June, has been boosted by the £3.9m shareholder loan together with a £3.1m R&D tax credit received from HMRC post period. With a cashburn of ca.£1.9m per month, further capital will be needed in the near future, for which discussions are well advanced.
- **Investment summary:** Demand for proton therapy is increasing worldwide and the need for a small, flexible, affordable and close-to-patient machine is becoming ever more apparent. AVO has attracted strong partners and discussions with potential customers have already started. Attention is focused on the construction timetable for the flagship Harley Street site, where excavation and construction work is progressing very well.

Financial summary and valuation

Year end Dec (£m)	2014	2015	2016	2017E	2018E	2019E
Sales	0.11	0.00	0.00			
EBITDA	-5.06	-6.41	-10.83			
Underlying EBIT	-5.18	-6.59	-11.18			
Reported EBIT	-6.45	-8.51	-13.09			
Underlying PBT	-5.06	-6.72	-11.27			
Statutory PBT	-7.56	-8.63	-13.18			
Underlying EPS (p)	-14.91	-7.13	-11.26			
Statutory EPS (p)	-22.29	-12.25	-14.37			
Net (debt)/cash	0.48	7.96	0.91			
Capital increase	10.16	21.06	13.54			
P/E (x)	-1.0	-2.0	-1.3			
EV/sales (x)	-	-	-			

Source: Hardman & Co Life Sciences Research

2017 interim results

Successful integration of the different modules of the LIGHT system highlight the reduced technical risk inherent to the development of the LIGHT accelerator. All the different components have been tested individually, and more units are successfully being integrated. To date, three – the proton source, the RFQ and the first SCDTL – of the four main structures have been integrated and the proton beam generated and accelerated up to an energy of 7.5MeV, which is a major achievement. The fourth element – the CCL(s) – has been received at the Geneva testing facility and are less technically challenging to integrate as they have already been validated by the LIBO prototype, which was a high-speed unit that has already been integrated (with another accelerator).

Development highlights

- ▶ **Energy:** Generation of the proton beam and its acceleration up to 5MeV, announced in March 2017, represented a considerable milestone. Acceleration of the beam through the RFQ from zero to 5MeV was a considerable challenge – analogous to accelerating a car from 0-60mph
- ▶ **Integration of first SCDTL unit:** Integration of the third main structure, the SCDTL, that follows the proton source and RFQ has also been successfully achieved. With the first SCDTL in place, the proton beam has been accelerated up to a recorded energy of 7.5MeV. Addition of more SCDTL units will allow further acceleration to higher energy levels
- ▶ **CCLs units:** The units have all been received at the Geneva testing site. This also represents one of the milestones set at Investor Forum back in March 2017
- ▶ **Ionisation chamber:** The unit has been received. It represents a key element in monitoring the beam position, size and dose level at the ‘near patient’ end of the system, having to be designed specifically to meet LIGHT’s operational features
- ▶ **Patient positioning system:** Completion of the system that controls the positioning of the patient in the treatment chair. Progress has also been made on imaging and software management, with further work on-going
- ▶ **Harley Street site:** Structural demolition by Deconstruct has been completed and the next stage of sub-structural work, such as piling activity, is underway. The building work remains on schedule for the LIGHT to be installed in 1H 2019

Corporate highlights

- ▶ **Commercialisation:** Discussions for a second site in Birmingham are ongoing, with potential for other sites in the US, Europe, Asia and the Middle East
- ▶ **Board:** Operational and scientific expertise enhanced with the appointments of Prof. Steve Myers, Hans von Celsing, Dr. Nick Plowman, Ed Lee and Jonathan Farr

Financial highlights

- ▶ **Administration:** Slightly lower than forecast at -£6.68m (-£6.8m est)
- ▶ **Tax credit:** AVO received £3.1m R&D tax credit from HMRC after the period end
- ▶ **Cashburn:** During this big investment phase, the cashburn was ca.£1.9m per month, in line with expectations, leaving cash of £0.23m, boosted subsequently by the post-period financing facility from a consortium of shareholders for £3.9m, that was beneficial on the share price

Advanced Oncotherapy interims 2017 – actual vs expectations

Half-year to end June (£m)	1H'16 actual	1H'17 actual	change %	1H'17 forecast	Delta
Administration	-6.83	-6.68	-2%	-6.8	+0.12
PBT loss	-6.87	-7.21	+5%	-7.2	-0.01
Tax credit	+1.98	+0.71	Nm	0.0	+0.71
Net loss	-6.87	-6.50	+5%	-7.2	+0.70
Net cash/(debt)	*+0.91	-6.46	nm	-8.5	+2.0

*@31st December 2016; Figures may not add up exactly due to rounding
Source: Advanced Oncotherapy; Hardman & Co Life Sciences Research

Financial Summary

Financial forecast summary

Year end Dec (£m)	2014	2015	2016	2017E	2018E	2019E
P&L						
Sales	0.11	0.00	0.00			
COGS	-0.20	0.00	0.00			
SG&A	-5.09	-6.59	-11.18			
Underlying EBIT	-5.18	-6.59	-11.18			
Net financials	0.12	-0.12	-0.10			
Underlying PBT	-5.06	-6.72	-11.27			
Share based costs	-0.47	-1.03	-1.91			
Exceptionals	-0.80	-0.89	0.00			
Reported pre-tax profit	-7.56	-8.63	-13.18			
Taxation	0.00	2.78	2.82			
Underlying net income	-5.06	-3.65	-6.85			
Reported net income	-7.56	-6.27	-8.74			
Weighted shares (m)	33.9	51.2	60.8			
Underlying EPS (p)	-14.91	-7.13	-13.91			
Reported EPS (p)	-22.29	-12.25	-14.37			
Balance sheet						
Share capital	10.28	14.18	18.12			
Reserves	0.85	13.10	15.88			
Debt	0.99	1.00	0.54			
Cash	1.47	8.96	1.45			
Invested capital	10.65	19.32	33.09			
Net cash/(debt)	0.48	7.96	0.91			
Cashflow						
Trading profit	-5.18	-6.59	-11.18			
Working capital	-0.16	-2.92	-2.33			
Interest & Tax	-0.18	-0.15	2.21			
Company operat. cashflow	-6.40	-9.77	-10.93			
Capital expenditure	-0.33	-0.76	-0.77			
Capitalised intangibles	-0.98	-3.53	-8.91			
Free cashflow	-7.71	-14.05	-20.61			
Share issues	10.16	21.06	13.54			
Change in net debt	9.69	7.48	-7.05			

Source: Hardman & Co Life Sciences Research

Disclaimer

Hardman & Co provides professional independent research services. Whilst every reasonable effort has been made to ensure that the information in the research is correct, this cannot be guaranteed.

The research reflects the objective views of the analysts named on the front page. However, the companies or funds covered in this research may pay us a fee, commission or other remuneration in order for this research to be made available. A full list of companies or funds that have paid us for coverage within the past 12 months can be viewed at <http://www.hardmanandco.com/>

Hardman & Co has a personal dealing policy which debars staff and consultants from dealing in shares, bonds or other related instruments of companies which pay Hardman for any services, including research. They may be allowed to hold such securities if they were owned prior to joining Hardman or if they were held before the company appointed Hardman. In such cases sales will only be allowed in limited circumstances, generally in the two weeks following publication of figures.

Hardman & Co does not buy or sell shares, either for its own account or for other parties and neither does it undertake investment business. We may provide investment banking services to corporate clients.

Hardman & Co does not make recommendations. Accordingly, we do not publish records of our past recommendations. Where a Fair Value price is given in a research note this is the theoretical result of a study of a range of possible outcomes, and not a forecast of a likely share price. Hardman & Co may publish further notes on these securities/companies but has no scheduled commitment and may cease to follow these securities/companies without notice.

Nothing in this report should be construed as an offer, or the solicitation of an offer, to buy or sell securities by us.

This information is not tailored to your individual situation and the investment(s) covered may not be suitable for you. You should not make any investment decision without consulting a fully qualified financial adviser.

This report may not be reproduced in whole or in part without prior permission from Hardman & Co.

Hardman Research Ltd, trading as Hardman & Co, is an appointed representative of Capital Markets Strategy Ltd and is authorised and regulated by the Financial Conduct Authority (FCA) under registration number 600843. Hardman Research Ltd is registered at Companies House with number 8256259. However, the information in this research report is not FCA regulated because it does not constitute investment advice (as defined in the Financial Services and Markets Act 2000) and is provided for general information only.

*Hardman & Co Research Limited (trading as Hardman & Co)
35 New Broad Street
London
EC2M 1NH
T +44 (0) 20 7194 7622*

Follow us on Twitter @HardmanandCo

(Disclaimer Version 3 – Effective from May 2017)

Hardman & Co

35 New Broad Street
London
EC2M 1NH

Tel: +44(0)20 7194 7622

www.hardmanandco.com

