



29 September 2017

ADVANCED ONCOTHERAPY PLC
("Advanced Oncotherapy" or the "Company")

Half-year Report

Advanced Oncotherapy (AIM: AVO), the developer of a next generation proton therapy system for cancer treatment, announces its unaudited results for the six months ended 30 June 2017 and post-period events.

Highlights:

- Technological milestones reached with successful integration and testing of proton source, RFQ and SCDDL significantly de-risking development process
- Progress at the Harley Street site on-track with next stage of sub-structural work underway through Deconstruct
- Preparation of two production lines for LIGHT system commercial roll-out
- Additional financing from consortium led by longstanding shareholder AB Segulah, with long-term financing options under consideration
- Strengthening of scientific and operational expertise
- Shareholder funds of £32.01 million as at 30 June 2017, up from £22.63 million a year earlier; cash and cash equivalents of £235,437, with a post period end £3.90 million financing from AB Segulah consortium and corporation tax R&D refund of £3.05 million received

Nicolas Serandour, CEO of Advanced Oncotherapy, said:

"Technological development of our LIGHT system continues to be on track and, through the successful integration and testing of three of the four key structures of LIGHT's accelerating system, we have significantly de-risked the development process and have overcome the greatest technical challenges that this system faces. We are now well positioned to accelerate the proton beam through additional SCDDL modules and, beyond that, to integrate the fourth key component, the CCLs. The Harley Street site also progresses well and our principal contractor Deconstruct remains on schedule.

"As our technological progress advances we find ourselves in a much stronger position as we assess financing options and we have been encouraged by positive feedback. We have been able to put financing agreements in place and we hope to provide an update to shareholders on longer-term financing options in due course.

"We will update shareholders regularly on our future progress and we remain on track to build a proton therapy system capable of treating superficial tumours by the end of Q3 2018."

Advanced Oncotherapy Plc

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About Advanced Oncotherapy Plc www.avoplc.com

Advanced Oncotherapy is a provider of particle therapy in the treatment of cancer, which harnesses the very best in modern technology. Advanced Oncotherapy's R&D team, ADAM, in Geneva, focuses on the development of a proprietary proton accelerator – LIGHT (Linac Image Guided Hadron Technology). LIGHT accelerates protons to the energy levels achieved in legacy machines but in a compact and truly modular unit, offering significant cost advantages. LIGHT also delivers proton beams in a way that facilitates greater precision and electronic control, which are not achievable with currently available alternative technologies.

Advanced Oncotherapy will offer healthcare providers affordable systems that will enable them to treat cancer with an innovative technology, offering better health outcomes and lower treatment related side effects.

Advanced Oncotherapy continually monitors the market for any emerging improvements in delivering proton or particle therapy and actively seeks working relationships with providers of these innovative technologies. Through these relationships, the Company will remain the prime provider of cutting edge, cost-effective systems for particle therapy.

EXECUTIVE CHAIRMAN'S STATEMENT

I am delighted to update shareholders with our report for the six months ended 30 June 2017 and to provide a review of the further significant progress being made in the technical development of our next generation proton therapy system, LIGHT.

We are very pleased with the considerable advances that have been made to date with the successful integration of three of the four key structures for LIGHT's accelerating system, a milestone which has greatly reduced the overall technical risk of this project. Progress at our flagship Harley Street site remains on track and additional funding agreements allow us to approach long-term financing options from a stronger base. We continue to be mindful of our future ability to meet a huge medical need with a successful commercial roll-out of the LIGHT system once development of our first system is completed and I will update on progress in this area below. We remain confident that demand for our next-generation proton therapy system will be strong and that additional commercial sales will be secured in due course.

Most importantly, we remain firmly on track to build a proton therapy system capable of treating superficial tumours by the end of Q3 2018, a critical milestone that once reached will mark a significant inflection point for delivering value to shareholders.

Technology update

During the six months to 30 June 2017 and beyond we have made significant advancements in the technology development and manufacture of our first LIGHT system. As a reminder, our system has four key components that are integral to the successful completion of a system capable of patient treatment. The first unit is the proton source which then feeds the protons to the second component, the Radio Frequency Quadrupole ("RFQ"). As we announced in March 2017, we achieved a significant technological milestone by firing a proton beam through the integrated proton source and RFQ at the maximum design-anticipated energy of 5 MeV. The next stage is for the beam to pass through the low-speed accelerators, the Side Coupled Drift Tube Linacs ("SCDTLs"), before passing through the high-speed accelerators, the Coupled Cavity Linac ("CCL") modules, the fourth key structure.

Whilst all four structures had already been tested individually and the proton source successfully integrated with the RFQ and demonstrated to be functioning as expected, we were able to update shareholders earlier this month on completion of another key technological milestone: namely the successful integration and testing of three of the four key elements of the LIGHT system for the first time.

The integration of the first SCDTL with the RFQ and proton source, with acceleration of the proton beam through all integrated units marks a further de-risking of the technological development process, given that it is materially more challenging to accelerate protons at lower speeds.

Much of the linear accelerator technology has already been validated through the successful testing of the Linac Booster ("LIBO") prototype. LIBO is a "high speed" accelerator and most closely matches the design and operational requirements of the CCL modules, and so this, combined with the latest successful integration of the first three key LIGHT structures, should provide shareholders with confidence that the greatest technological challenges of this project have already been overcome.

During the period we also announced that the LIGHT system's unique ionisation chamber was received from our partner Pyramid Technical Consultants Inc. The ionisation chamber is a critical element of LIGHT's overall safety system, monitoring beam position, spot size and dosage, and will be part of the delivery system in the treatment rooms. In addition, the patient positioning subsystem, which includes the patient treatment chair and robotic arm which moves the chair and patient, had been completed and as other subsystems are completed, such as imaging and treatment management software, they will be integrated to form the whole Patient Positioning System ("PPS").

Harley Street update

Progress at 141/143 Harley Street continues apace and we are very pleased with the works already carried out by Deconstruct (UK) Limited (“Deconstruct”) who were appointed and are being paid by The Howard de Walden Estate as principal contractor to the Harley Street construction project. Deconstruct are highly experienced in strategic demolition and in particular in the technical expertise needed to preserve the integrity and appearance of Grade 2 listed buildings, such as 141/143 Harley Street.

Deconstruct came on site in January to carry out preliminary assessment and have already completed the structural demolition and enabling work required in the first stages of this project. The next stage of sub-structural works is now underway with the secant piling, required to secure the retaining walls in the basement of the building, now well underway. A short video on the progress of the site can be seen on our website here: www.avopl.com

The work at Harley Street for the creation of the Harley Street Proton Therapy Centre, the site of central London’s first proton therapy centre, remains on schedule and we have every confidence that we are on-track for the site to be ready for installation by H1 2019 with first patient treatment expected by mid-2020.

Future plans for commercialisation

Whilst the technical development of our first LIGHT system and the Harley Street site is a key focus of the Company we must also be mindful of our ability to respond to the huge worldwide medical need for access to an affordable proton therapy technology that can be easily installed and safely operated in areas of high patient population density.

To this end we continue to work with our manufacturing partners to make the preparations necessary for the manufacture and building of our completed LIGHT systems through the construction of two production lines capable of producing eight machines per year. Whilst these production volumes are expected at the initial stage of roll-out, we are well positioned to further ramp-up production of our system. Because of the LIGHT system’s modular nature, mass production capability, compactness and requirement for less shielding, we are in a good position to increase production to meet demand and also ensure lower manufacturing and installation lead times.

In terms of our existing pipeline for the LIGHT system, we continue to receive substantial interest in the technology. We remain in discussions for a second site in Birmingham. As well as this, we are looking at a number of sites in the USA and multiple other opportunities in Europe, Asia and the Middle East. We retain full distribution rights for the LIGHT proton therapy system in China and other countries in South East Asia and remain of the opinion that this will be an exciting and dynamic potential market for our technology and are confident that we will achieve commercial success here, having received strong indications of interest in this region already.

Our confidence in LIGHT’s commercialisation is also borne out by the desire from the scientific and clinical communities for technical improvements in proton beam therapy. These include rapid proton beam modulation (direction, energy and dose), beam size and improved treatment planning and execution, all of which LIGHT is designed to offer.

Financing

Post-period end, in July, we announced that a consortium led by one of our longstanding investors, AB Segulah, provided additional financing to the Company through a £3.9m loan facility. At the same time we agreed with Bracknor to waive the requirement for the Company to drawdown the minimum of 10 tranches and declared that the Company would not intend to use the Bracknor facility in the future.

The support shown by our Swedish investors allows us to approach long-term financing options from a stronger position. We continue to assess additional long-term financing options and conversations have been encouraging, particularly in light of the reassurance that our continuing technological progress provides in terms of our ability

to overcome the most challenging technical aspects of our development programme. We look forward to updating shareholders as these conversations advance.

Scientific and Operational expertise

With the need to deliver on both technological development and commercial roll-out into a clinical setting it is essential for us to have both scientific and operational expertise providing input at a Board level, ensuring that we continue to deliver to the expectations we laid out to shareholders in March 2017 and which we believe will be the catalysts for shareholder value.

Professor Steve Myers' contribution to the Board has been particularly welcomed given his hands-on experience as Executive Chairman of our fully owned subsidiary, ADAM S.A., and his past role as Director of Accelerators and Technology at CERN. Hans von Celsing, also appointed as a Non-Executive Director, has considerable experience in the business development of both radiation and proton therapy companies.

We also now benefit from the direct contribution at the Board level from Dr. Nick Plowman a key opinion leader in radiation oncology technology and clinical oncologist at St Bartholomew's Hospital and Great Ormond Street Hospital.

We are aware of the need to ensure that our Board composition is appropriate and provides us with the necessary technical, medical and commercial expertise to deliver on our ambitious plans to become a world-leading manufacturer of affordable, accessible and most effective next-generation proton therapy systems. We are also greatly encouraged to see the extent of support from our Board in their own shareholding interests in the business and the degree to which they continue to purchase shares.

In addition, the senior management team was reinforced by Ed Lee, who joined as Chief Operating Officer. Ed joined from Optivus Proton Therapy at Loma Linda University, site of the world's first and longest running commercial proton therapy centre. Dr. Jonathan Farr also joined us from the St Jude Children's Research Hospital, a world renowned institution in paediatric oncology, as Senior Vice-President of Medical Physics.

Financials

The Company recorded a loss of £6.78 million in the six months to 30 June 2017 (H1 2016: £5.34 million), with shareholder funds increasing to £32.01 million over the same period (H1 2016: £22.63 million).

Cash and cash equivalents at 30 June 2017 were £235,437, with working capital of £3.63 million, a post period financing agreement for £3.90 million and £3.05 million of the corporation tax R&D refund received.

The Board is having ongoing discussions with potential funders and remains confident that additional funds will be available as and when needed.

Outlook

There is an increasing demand for proton therapy globally, with millions of patients who could potentially benefit from this technology. While the access to this technology remains scarce, there is a significant unmet medical need the LIGHT system is uniquely suited to provide.

We are in a prime position to provide a novel and disruptive technology that advances current methods of cancer treatment in the UK and worldwide. There is mounting evidence for the clinical superiority of proton therapy over traditional X-ray radiotherapy. This evidence will only increase as more proton beam centres are built and more patients are treated. LIGHT's modularity and linear design allow for mass production, shorter manufacturing lead times, easier installation/commissioning and offer both cost and clinical advantages.

The technological development of our LIGHT system remains on-track and importantly we have achieved the most challenging milestones in relation to the acceleration of protons, which has significantly reduced the overall technology risk of the accelerating system. Going forwards, we expect to update shareholders on newsflow in firing the proton beam through additional SCDDL modules, further news on the development of the PPS and on the directional dose delivery system.

Work at our Harley Street site remains on schedule and we believe we are in a stronger position to secure long-term financing, particularly as we continue to advance the technical development of our first LIGHT system. We continue to have strong commercial interest in future LIGHT systems.

We will continue to update shareholders on our progress as regularly as possible and remain confident that we are on track to deliver a world-leading proton therapy technology that will have a major impact on cancer treatments across the globe.

On behalf of the Board, I would like to thank our shareholders and everyone working towards our shared goal for their continued support and look forward to updating them further on our exciting journey.

Dr. Michael Sinclair
Executive Chairman

29 September 2017

Consolidated statement of comprehensive income

	Unaudited 6 months to 30-Jun-17 £	Unaudited 6 months to 30-Jun-16 £	Audited Year to 31-Dec-16 £
Revenue	-	-	-
Cost of sales	-	-	-
Gross profit	-	-	-
Administrative expenses	(7,320,943)	(5,897,535)	(13,087,307)
Operating loss	(7,320,943)	(5,897,535)	(13,087,307)
Finance income	51	9,219	9,045
Finance costs	(535,616)	(47,843)	(106,338)
Loss on ordinary activities before taxation	(7,856,508)	(5,936,159)	(13,184,600)
Taxation	712,295	-	2,818,050
Loss after taxation from continuing operations	(7,144,213)	(5,936,159)	(10,366,550)
Discontinued operations			
Loss for the period from discontinued operations	-	-	22,100
Loss after discontinued operations	(7,144,213)	(5,936,159)	(10,344,450)
Loss for the period			
Equity shareholders of the parent Company	(7,144,213)	(5,936,159)	(10,346,660)
Non-controlling interests	-	-	2,210
Other comprehensive income			
Exchange differences on translation of foreign operations	368,922	598,218	1,608,705
Total comprehensive loss for the period net of tax	(6,775,291)	(5,337,941)	(8,735,745)
Total comprehensive loss attributable to:			
Equity shareholders of the parent Company	(6,775,291)	(5,337,941)	(8,737,955)
Non-controlling interests	-	-	2,210
	(6,775,291)	(5,337,941)	(8,735,745)

Consolidated statement of financial position

	Unaudited 6 months to 30-Jun-17 £	Unaudited 6 months to 30-Jun-16 £	Audited Year to 31-Dec-16 £
Non-current assets			
Intangible assets	26,701,419	14,785,591	23,355,065
Property, plant and equipment	1,372,943	1,139,607	1,464,264
Investment property	310,000	310,000	310,000
	28,384,362	16,235,198	25,129,329
Current Assets			
Trade and other receivables	2,255,581	1,043,693	506,963
Corporation tax R&D refund	3,786,094	1,978,251	3,148,006
Cash and cash equivalents	235,437	665,311	1,448,524
Inventories	9,024,226	8,641,122	7,437,508
	15,301,338	12,328,377	12,541,001
Total assets	43,685,700	28,563,575	37,670,330
Current liabilities			
Trade and other payables	(4,979,171)	(4,933,638)	(3,134,314)
Borrowings	(6,695,000)	(1,000,000)	(543,250)
	(11,674,171)	(5,933,638)	(3,677,564)
Non-current liabilities			
Borrowings	-	-	-
Deferred tax	-	-	-
	-	-	-
Total liabilities	(11,674,171)	(5,933,638)	(3,677,564)
Net assets	32,011,529	22,629,937	33,992,766
Equity			
Share capital	20,192,132	14,214,924	18,116,946
Share premium reserve	43,301,056	32,815,856	43,117,741
Share option reserve	4,843,698	3,828,971	4,258,148
Reverse acquisition reserve	11,038,204	11,038,204	11,038,204
Loan note conversion reserve	1,950,000	-	-
Exchange movements reserve	1,894,461	515,051	1,525,539
Accumulated losses	(51,208,022)	(39,783,069)	(44,063,813)
Equity attributable to shareholders of the Parent Company	32,011,529	22,629,937	33,992,766
Non-controlling interests	-	-	-
Total equity funds	32,011,529	22,629,937	33,992,766

Consolidated statement of cash flows

	Unaudited 6 months to 30-Jun-17	Unaudited 6 months to 30-Jun-16	Audited Year to 31-Dec-16 Continuing operations	Audited Year to 31-Dec-16 Discontinued operations
Cash flow from operating activities				
Loss after taxation	(7,144,213)	(5,936,159)	(10,366,550)	22,100
Adjustments:				
Taxation	(712,295)	-	(2,818,050)	-
Finance costs	535,666	47,843	106,338	-
Finance income	(51)	(9,219)	(9,045)	-
Depreciation	180,863	127,090	345,371	-
Share based payments	644,050	783,192	1,909,871	-
Cash flows from operations before changes in working capital	(6,495,979)	(4,987,253)	(10,832,065)	22,100
Changes in inventories	(1,586,718)	(4,222,833)	(3,019,219)	-
Change in trade and other receivables	(1,701,887)	(521,960)	14,770	-
Change in trade and other payables	2,326,427	2,471,340	662,213	14,912
Cash (used) / generated from operations	(7,458,157)	(7,260,706)	(13,174,302)	37,012
Interest paid	(340,008)	(24,747)	(246,550)	-
Corporation tax receipt	74,207	805,980	2,454,268	-
Cash flows from operating activities	(7,723,958)	(6,479,473)	(10,966,583)	37,012
Cash flows from investing activities:				
Capital expenditure on intangible assets	(3,346,354)	(1,625,585)	(8,908,411)	-
Purchase of plant and equipment	(89,542)	(229,325)	(770,339)	-
Interest received	51	9,219	16,713	-
Cash flows from investment activities	(3,435,845)	(1,845,691)	(9,662,037)	-
Cash flows from financing activities:				
Equity share capital raised	250,000	32,340	13,538,747	-
Convertible loan notes	3,794,967	-	-	-
Other short term loans	5,901,750	-	(456,750)	-
Intra Group Cash Transfers	-	-	19,991	(19,991)
Cash flows from financing activities	9,946,717	32,340	13,101,988	(19,991)
Decrease in cash and cash equivalents	(1,213,086)	(8,292,824)	(7,526,633)	17,021
Cash and cash equivalents at beginning of the period	1,448,523	8,958,135	8,958,135	-
Cash and cash equivalents at end of the period	235,437	665,311	1,431,502	17,021

A copy of the unaudited interim accounts for the six months ended 30 June 2017 is available from the Company's website at www.advancedoncotherapy.com