29 March 2018

Polarean Imaging Plc
("Polarean", the "Company" or the "Group")

Admission to trading on AIM and First Day of Dealings

Polarean Imaging plc (AIM: POLX), the medical-imaging technology company, with a proprietary drug-device combination product for the magnetic resonance imaging (MRI) market, announces the admission of its ordinary shares of £0.00037 each (the "Ordinary Shares") to trading on AIM ("Admission") today, 29 March 2018 at 8am. Dealings in the Ordinary shares will commence under the ticker "POLX" and ISIN GB00BF3DT583.

The Company's AIM Admission Document is available from www.polarean-ir.com

Transaction Highlights

- £3 million raised (before expenses) via the placing of 20,000,000 Ordinary Shares (the "Placing") at a placing price of 15p (the "Placing Shares");
- The Placing Shares represent approximately 27.3 per cent. of the Company's share capital on Admission as enlarged by the Placing;
- Enlarged share capital on Admission of 73,406,692 Ordinary Shares;
- £11.0 million market capitalisation on Admission;
- Amphion Innovations Plc has participated in the Placing and will remain the Company's largest shareholder following Admission, holding 23.2% of the Company's share capital; and
- Northland Capital Partners Limited is Nominated Adviser and Broker.

Use of Funds

Polarean expects to achieve a number of key milestones following Admission. The US Food and Drug Administration (FDA) has accepted the Group's Phase III trial design for testing the Company's drug-device combination, so the most important near-term milestone will be the successful completion of the FDA Phase III clinical trial in the US. The trial is expected to commence early in the second quarter of 2018 and to last for approximately 18 months, which includes the time required to prepare the New Drug Application for submission to the FDA.

As such, the net proceeds of the Placing are expected to be used as follows:

- FDA required documentation, final design automation improvements and the initial production run of polarisers for the Phase III FDA clearance-to-market trials;
- Completion of the Company's Phase III clinical trials to gain clearance to market hyperpolarised Xenon gas (^{129}Xe) as a contrast agent drug and the polariser as a device; and
- working capital.

About Polarean Imaging plc

The Company and its wholly owned subsidiary, Polarean, Inc. (together the "Group") are revenue generating, medical drug-device combination companies operating in the high resolution medical imaging market.

The Group develops equipment that enables existing MRI systems to achieve an improved level of pulmonary function imaging and specialises in the use of hyperpolarised Xenon gas (^{129}Xe) as an imaging agent to visualise ventilation and gas exchange regionally in the smallest airways of the lungs, the tissue barrier between the lung and the bloodstream and in the pulmonary vasculature. Xenon gas exhibits solubility and signal properties that enable it to be imaged within other tissues and organs.

The Group operates in an area of significant unmet medical need and the Group's technology provides a novel diagnostic approach, offering a non-invasive and radiation-free functional imaging platform which is more accurate and less harmful to the patient than current methods. The annual burden of pulmonary disease in the US is estimated to be over US$150 billion.

The Group also develops and manufactures high performance MRI radiofrequency (RF) coils which are a required component for imaging ^{129}Xe in the MRI system. The development of these coils by the Group facilitates the adoption of the Xenon technology by providing application-specific RF coils which optimise the imaging of ^{129}Xe in MRI equipment for use as a medical diagnostic as well as a method of monitoring the efficacy of therapeutic intervention.

The Placing follows on from two rounds of pre IPO funding in 2017. The first of which raised approximately £1.5 million in May 2017 and the second of which raised approximately £0.7 million in December 2017, by way of the issue of loan notes that convert into Ordinary Shares automatically at Admission. The Company undertook these rounds of funding with support from The Life Sciences Division.

Richard Hullihen, CEO of Polarean, commented: *"We are encouraged by the extensive work we have undertaken to date and are excited by the prospect of commencing the Phase III trials for the Group's drug-device technology, which will commence as soon as practicable following Admission. We believe the products Polarean is developing should greatly increase physicians' ability to diagnose pulmonary conditions and image gas exchange in tissues throughout the body. We look forward to keeping shareholders fully updated of developments as they occur."*

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About Polarean (www.polarean.com)

The Group's Technology and Products

The Subsidiary is a clinical-stage company and its lead product has been designated as a drug-device combination by the FDA. The Subsidiary's product enables the visualisation of hyperpolarised ^{129}Xe gas ("**HPX**") via MRI technology to help diagnose lung disease earlier, identify the type of intervention likely to benefit a patient and to monitor the efficacy of treatment. As a result of the FDA's drug-device designation, the Subsidiary's products will be approved and sold only for use with each other. The products are currently being used at a number of research sites on a pre-FDA clearance basis to facilitate the research and evaluation of lung function, to assist in making improved disease progression assessment and to clearly visualise the effectiveness of several therapeutics which are under development.

The key to the Group's technology is hyperpolarised Xenon, and the Group currently generates revenue from sales and support of the instrument that is used to polarise the gas (the polariser), and auxiliary devices, known

as polarimetry stations, that provide quality assurances for each dose and enable reliable delivery of the dose to subjects. Implementing the Group's technology in a clinical setting is straightforward: prior to the MRI scan a patient breathes in a small amount of inert HPX to provide an extremely strong MRI signal. This transforms the MRI from a technology that is not applicable to the lungs into one that is able to provide multiple images of the lung structure and function in a one 10-20 second breath-hold. HPX MRI overcomes the limitations of traditional pulmonary function testing as HPX MRI:

- Is more accurate and reproducible than spirometry and other traditional pulmonary function tests, enabling the detection and mapping of small and localised changes in lung ventilation and gas exchange over time;
- provides regional information about lung disease without exposure to ionising radiation or radioactivity; and
- assesses ventilation and gas exchange in the smallest airways, where disease often begins.

The Group's technology works in conjunction with traditional MRI, transforming it into a powerful diagnostic modality for the lung. The Group's approach is to take ^{129}Xe, an inert gas, and hyperpolarise the nucleus to create an MRI signal which is approximately 100,000 times stronger than a conventional MRI signal. When the MRI scan is undertaken, the HPX resonates at different frequencies in: (i) the bronchioles and alveoli of the lung; (ii) the barrier tissue of the lung; and (iii) when dissolved in arterial blood in the pulmonary vasculature, thus providing information on ventilation (the ability of air to reach the alveoli), and gas exchange (the ability of air to diffuse through the alveolar membrane into the pulmonary vasculature). All pulmonary diseases result from impairments to the free flow of air through bronchioles or from abnormal gas exchanges in the lung alveoli. Therefore the images obtained from HPX MRI scans which are executed using the Group's technology aid in diagnosis, as the physician is able to identify issues with ventilation and gas exchange on a regional basis, down to the smallest of airways.

Hyperpolarisation of the ^{129}Xe is accomplished by placing a non-radioactive isotope of Xenon (^{129}Xe), an inert gas, into a beam of circularly polarised laser light in the presence of very small concentration of the alkali metal Rubidium, which acts as a physical catalyst in the hyperpolarisation process. The result is polarised ^{129}Xe whose nuclear magnetic spin is highly aligned, but not chemically or biologically different, to unpolarised ^{129}Xe. This hyperpolarised state persists for a few hours allowing ample time to administer the HPX to the patient.

The Group's products include:

- the ^{129}Xe gas, blended and made under Good manufacturing processes (GMP) at high purity, to be polarised within the polariser;
- the polariser itself, of which the latest model, the Polarean 9820 Xenon Hyperpolariser, has been designed to deliver approximately 2 to 3 litres of HPX per hour, (approximately 5-10 doses) of which each dose is to be used within 30 minutes of its production in order to retain sufficient polarisation to create a strong image;
- the dose delivery inhalation bag, made of HPX-compatible impermeable plastic materials with a mouthpiece for ease of inhalation; and
- the Polarean 2881 Polarisation Measurement Station, which provides a calibrated measurement of the polarisation of hyperpolarized gas within the dose delivery inhalation bag.