

LungLife AI

Healthcare
17 January 2022

Early-stage lung cancer diagnostics

LungLife AI is a medical diagnostics company focused on the development of AI-supported blood-based tests for the early detection of lung cancer. It has identified a significant medical need for non-invasive, sensitive and specific tests in early-stage lung cancer. The company's core technology, the LungLB test, seeks to detect circulating tumour cells (CTCs) to identify malignant lung nodules. It aims to apply machine learning/AI (ML/AI) to derive algorithms to increase test accuracy. Following a 2021 pilot study showing 76% sensitivity and 71% specificity, LungLife AI is currently planning a large-scale validation study, with the aim of commercialising in 2023.

Early diagnosis is an unmet medical need

According to the World Health Organization, lung cancer accounted for 1.8 million deaths worldwide in 2020. Diagnosis and treatment at an early stage has a significant effect on lung cancer survival rates. Low-dose computed tomography (LDCT) scans are the standard method for lung cancer screening; however, these return a high rate of false positives when assessing indeterminate lung nodules. Consequently, a high percentage of lung biopsies are conducted on benign nodules, increasing the cost and the risk of adverse events. The alternative 'wait-and-see' approach results in delayed treatment, significant anxiety for the patient and a potentially worse prognosis.

FISH-ing for CTCs

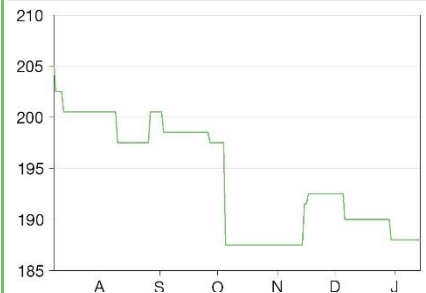
The LungLB test uses a patient's blood sample, which is shipped to the company's Clinical Laboratory Improvement Amendments (CLIA) approved lab. Red cells and some white blood cells are removed from the sample and the remaining cells are stained with fluorescence in situ hybridization (FISH) probes, allowing the identification of cancerous DNA markers, if present. A computer-controlled microscope takes pictures and sorts the images of cancerous cells based on these FISH signals. Subsequently a technician reviews the images before the results are sent back to the physician. LungLife AI aims to develop and implement ML/AI-derived algorithms to increase the accuracy of the image sorting. The full process takes approximately five days.

Clinical validation trials planned

LungLife AI completed a pilot study of 149 participants with biopsy-confirmed cancerous and non-cancerous lung nodules. The LungLB test demonstrated a sensitivity of 76%, a specificity of 71% and a positive predictive value of 89%, leading to the company listing on the AIM section of the London Stock Exchange in July 2021. After raising £17m in July 2021, the company now intends to conduct a multi-centre, large-scale (425-participant) clinical validation study. If positive, a clinical utility study will follow to support reimbursement from US insurers. LungLife AI hopes this cash will take it to commercialisation in 2023. However, any delays may mean that it needs to raise extra capital.

Price 188p
Market cap £48m

Share price graph



Share details

Code	LLAI
Listing	AIM
Shares in issue	25.4m

Business description

LungLife AI is a medical diagnostic company focused on the application of AI in the early-stage detection of lung cancer. Its LungLB blood test uses CTCs as biomarkers to provide physicians with information to avoid unnecessary biopsies or risky 'wait-and-see' approaches in lung cancer diagnosis. The company is planning for a large-scale clinical validation study following results from its 2021 pilot study.

Bull

- Unmet medical need for early diagnosis in lung cancer.
- Clinical development supported by scientific expertise at Mount Sinai.
- Quick, non-invasive diagnostic tool.

Bear

- Early-stage product carries significant R&D risk.
- Lung cancer diagnostics is a large and competitive market.
- Delays to trials and/or commercialisation could necessitate a further capital raise.

Analysts

Harry Shives	+44 (0)20 3077 5700
Jacob Thrane	+44 (0)20 3077 5700

healthcare@edisongroup.com

EDISON QUICKVIEWS ARE NORMALLY ONE-OFF PUBLICATIONS WITH NO COMMITMENT TO WRITING ANY FOLLOW UP. QUICKVIEW NOTES USE CONSENSUS EARNINGS ESTIMATES.

General disclaimer and copyright

This report has been prepared and issued by Edison. Edison Investment Research standard fees are £60,000 pa for the production and broad dissemination of a detailed note (Outlook) following by regular (typically quarterly) update notes. Fees are paid upfront in cash without recourse. Edison may seek additional fees for the provision of roadshows and related IR services for the client but does not get remunerated for any investment banking services. We never take payment in stock, options or warrants for any of our services.

Accuracy of content: All information used in the publication of this report has been compiled from publicly available sources that are believed to be reliable, however we do not guarantee the accuracy or completeness of this report and have not sought for this information to be independently verified. Opinions contained in this report represent those of the research department of Edison at the time of publication. Forward-looking information or statements in this report contain information that is based on assumptions, forecasts of future results, estimates of amounts not yet determinable, and therefore involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of their subject matter to be materially different from current expectations.

Exclusion of Liability: To the fullest extent allowed by law, Edison shall not be liable for any direct, indirect or consequential losses, loss of profits, damages, costs or expenses incurred or suffered by you arising out or in connection with the access to, use of or reliance on any information contained on this note.

No personalised advice: The information that we provide should not be construed in any manner whatsoever as, personalised advice. Also, the information provided by us should not be construed by any subscriber or prospective subscriber as Edison's solicitation to effect, or attempt to effect, any transaction in a security. The securities described in the report may not be eligible for sale in all jurisdictions or to certain categories of investors.

Investment in securities mentioned: Edison has a restrictive policy relating to personal dealing and conflicts of interest. Edison Group does not conduct any investment business and, accordingly, does not itself hold any positions in the securities mentioned in this report. However, the respective directors, officers, employees and contractors of Edison may have a position in any or related securities mentioned in this report, subject to Edison's policies on personal dealing and conflicts of interest.

Copyright: Copyright 2022 Edison Investment Research Limited (Edison).

Australia

Edison Investment Research Pty Ltd (Edison AU) is the Australian subsidiary of Edison. Edison AU is a Corporate Authorised Representative (1252501) of Crown Wealth Group Pty Ltd who holds an Australian Financial Services Licence (Number: 494274). This research is issued in Australia by Edison AU and any access to it, is intended only for "wholesale clients" within the meaning of the Corporations Act 2001 of Australia. Any advice given by Edison AU is general advice only and does not take into account your personal circumstances, needs or objectives. You should, before acting on this advice, consider the appropriateness of the advice, having regard to your objectives, financial situation and needs. If our advice relates to the acquisition, or possible acquisition, of a particular financial product you should read any relevant Product Disclosure Statement or like instrument.

New Zealand

The research in this document is intended for New Zealand resident professional financial advisers or brokers (for use in their roles as financial advisers or brokers) and habitual investors who are "wholesale clients" for the purpose of the Financial Advisers Act 2008 (FAA) (as described in sections 5(c) (1)(a), (b) and (c) of the FAA). This is not a solicitation or inducement to buy, sell, subscribe, or underwrite any securities mentioned or in the topic of this document. For the purpose of the FAA, the content of this report is of a general nature, is intended as a source of general information only and is not intended to constitute a recommendation or opinion in relation to acquiring or disposing (including refraining from acquiring or disposing) of securities. The distribution of this document is not a "personalised service" and, to the extent that it contains any financial advice, is intended only as a "class service" provided by Edison within the meaning of the FAA (i.e. without taking into account the particular financial situation or goals of any person). As such, it should not be relied upon in making an investment decision.

United Kingdom

This document is prepared and provided by Edison for information purposes only and should not be construed as an offer or solicitation for investment in any securities mentioned or in the topic of this document. A marketing communication under FCA Rules, this document has not been prepared in accordance with the legal requirements designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of the dissemination of investment research.

This Communication is being distributed in the United Kingdom and is directed only at (i) persons having professional experience in matters relating to investments, i.e. investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "FPO") (ii) high net-worth companies, unincorporated associations or other bodies within the meaning of Article 49 of the FPO and (iii) persons to whom it is otherwise lawful to distribute it. The investment or investment activity to which this document relates is available only to such persons. It is not intended that this document be distributed or passed on, directly or indirectly, to any other class of persons and in any event and under no circumstances should persons of any other description rely on or act upon the contents of this document.

This Communication is being supplied to you solely for your information and may not be reproduced by, further distributed to or published in whole or in part by, any other person.

United States

Edison relies upon the "publishers' exclusion" from the definition of investment adviser under Section 202(a)(11) of the Investment Advisers Act of 1940 and corresponding state securities laws. This report is a bona fide publication of general and regular circulation offering impersonal investment-related advice, not tailored to a specific investment portfolio or the needs of current and/or prospective subscribers. As such, Edison does not offer or provide personal advice and the research provided is for informational purposes only. No mention of a particular security in this report constitutes a recommendation to buy, sell or hold that or any security, or that any particular security, portfolio of securities, transaction or investment strategy is suitable for any specific person.

Frankfurt +49 (0)69 78 8076 960
Schumannstrasse 34b
60325 Frankfurt
Germany

London +44 (0)20 3077 5700
280 High Holborn
London, WC1V 7EE
United Kingdom

New York +1 646 653 7026
1185 Avenue of the Americas
3rd Floor, New York, NY 10036
United States of America

Sydney +61 (0)2 8249 8342
Level 4, Office 1205
95 Pitt Street, Sydney
NSW 2000, Australia