



**hVIVO**  
*formerly Open Orphan plc*

# Company Presentation

March 2024

Ticker: HVO

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# Company Overview



- World Leader in Human Challenge Trials
- Onsite Virology Laboratories
- FluCamp: tech-enabled volunteer and patient recruitment platform



Venn Life Sciences  
*part of hVIVO*

- Early Clinical Drug Development Services
- Biometric services



## Who we are

### Mission

Delivering today's healthcare by empowering tomorrow's innovation.

### Vision

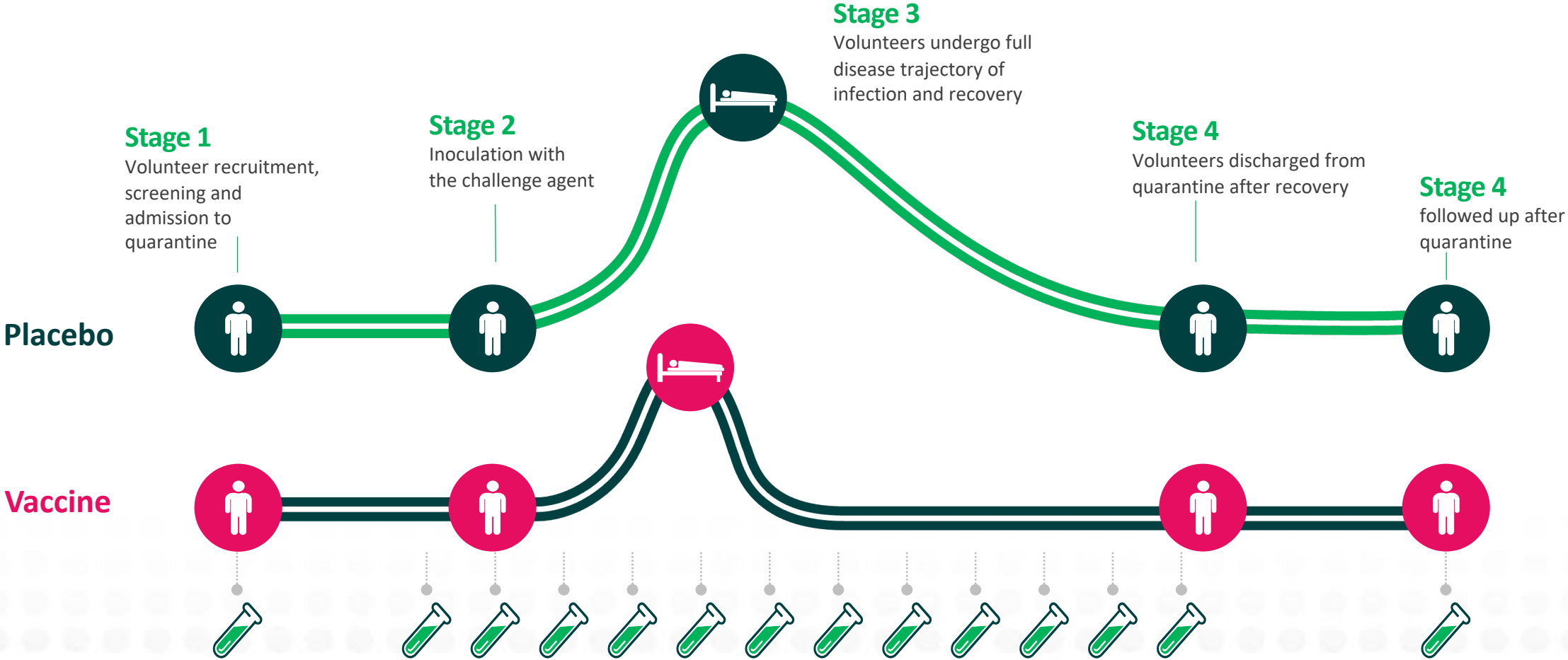
To transform global healthcare by revolutionising the drug development process through scientific ingenuity.

### Values

- ✓ Innovation & Agility
- ✓ Growth
- ✓ Integrity & Welfare
- ✓ One Team

# What is a Human Challenge Trial?

A clinical trial where healthy volunteers are exposed to a pathogen to test the effectiveness of vaccine and treatments...



...in a faster and more efficient setting.



# Benefits of Human Challenge Trials

## SCIENTIFIC



Generates invaluable dosing, safety and efficacy data

Helps optimise for larger field trials

De-risks Phase III programs

## CLINICAL DEVELOPMENT



Requires fewer subjects

Significant time savings

No seasonal dependence

## REGULATORY



Potential for Fast Track or Breakthrough designation - accelerating time to market

Potential approval and Emergency Use Authorisation

## FINANCIAL

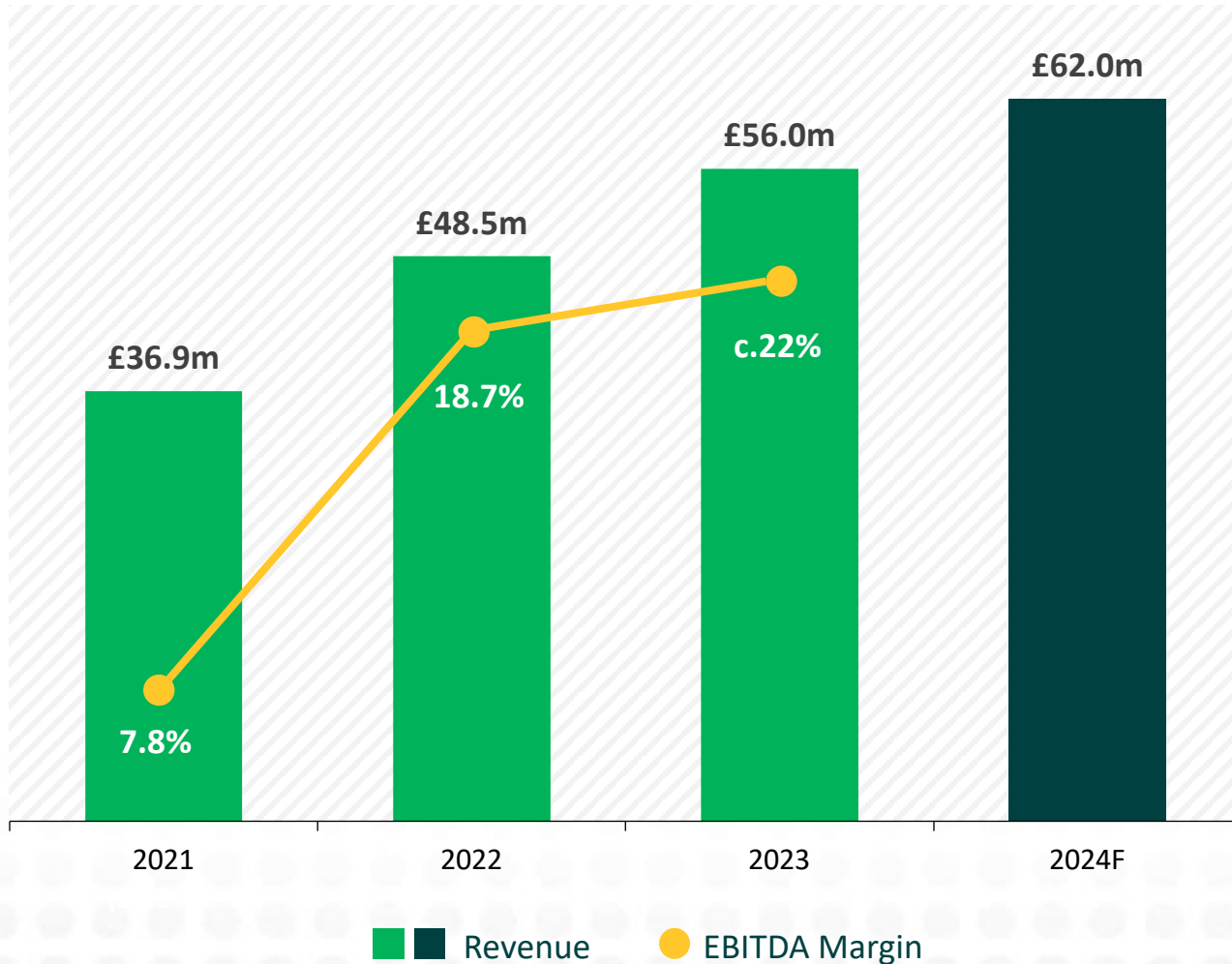


Significant valuation uplift for Biotech sponsor

Quick, cost-effective data in a tight funding environment

Allows products to “Succeed fast” or “Fail Fast”

# Revenue / EBITDA Profile



- Revenue: 15% YoY growth
- New sales strategy
- New operational model
- Concurrent trials
- £37m in cash (end '23)
- Strong orderbook

<sup>1</sup>Revenue excludes other income, such as R&D tax credits

# Unique End-to-End Human Challenge Service



Swab collection  
from community  
acquired disease



Isolate virus  
& produce GMP  
grade virus batch



Conduct characterisation  
study to determine  
best dose of virus



Model Developed:  
Conduct Human  
Challenge Trial (HCT)

*Typical challenge  
study starting point*

Further diversifying hVIVO's leading portfolio of human challenge models

1

Broader scope of work  
resulting in increased  
revenue (manufacture,  
characterisation,  
challenge)

2

Bespoke end-to-end  
challenge service  
enable hVIVO to match  
to our clients' specific  
target strain

3

Subsequent use of  
newly developed  
models across new and  
existing clients

## Recent Contracts (all £10m+)

- Bespoke Influenza model with Big Pharma client
- New Influenza model with Big Pharma client
- hMPV model with US Biopharma
- Bespoke Influenza B model with Big Pharma client
- RSV model with Big Pharma client



# FluCamp – Driving Efficiency in Volunteer Recruitment



**Simply smarter**  
Well established,  
cost effective  
and tailored  
recruitment.


**Target the right people**  
using an ever-expanding database.

**300,000+**  
Highly engaged &  
motivated volunteers

**100,000**  
Asthmatics

**97%**

Volunteers who complete a trial would recommend FluCamp to others<sup>1</sup>

Current TrustScore 

**4.0** 

Based on 247 reviews

Average **Trust Pilot** rating

More 5-star reviews than competitor clinical trials companies

**88%**

Volunteers rate enrolment process as **GOOD to EXCELLENT**<sup>1</sup>

**>50%**

**UNIQUE** website visits to FluCamp.com in 2023 than our nearest CRO competitor<sup>2</sup>

**>17k**

**Volunteers** screened in 2023

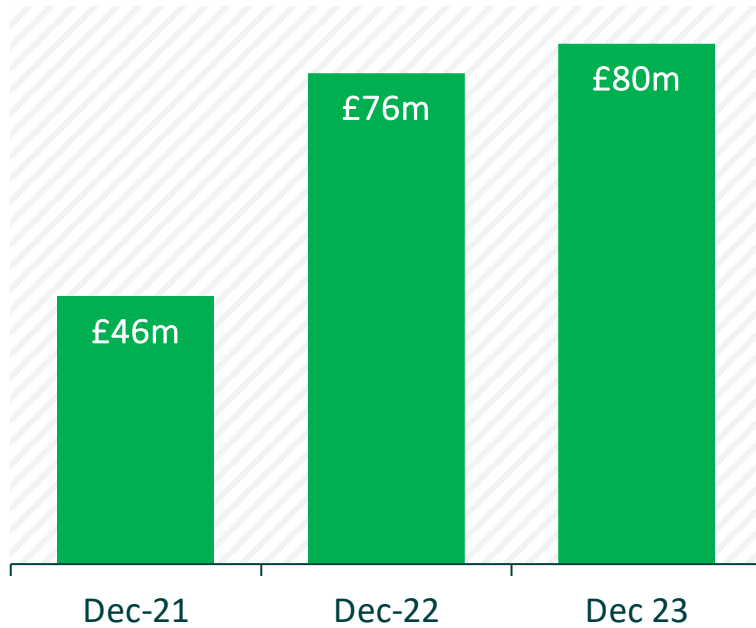


**PROFESSIONAL** UK based engagement centre supporting enrolment and onboarding activities

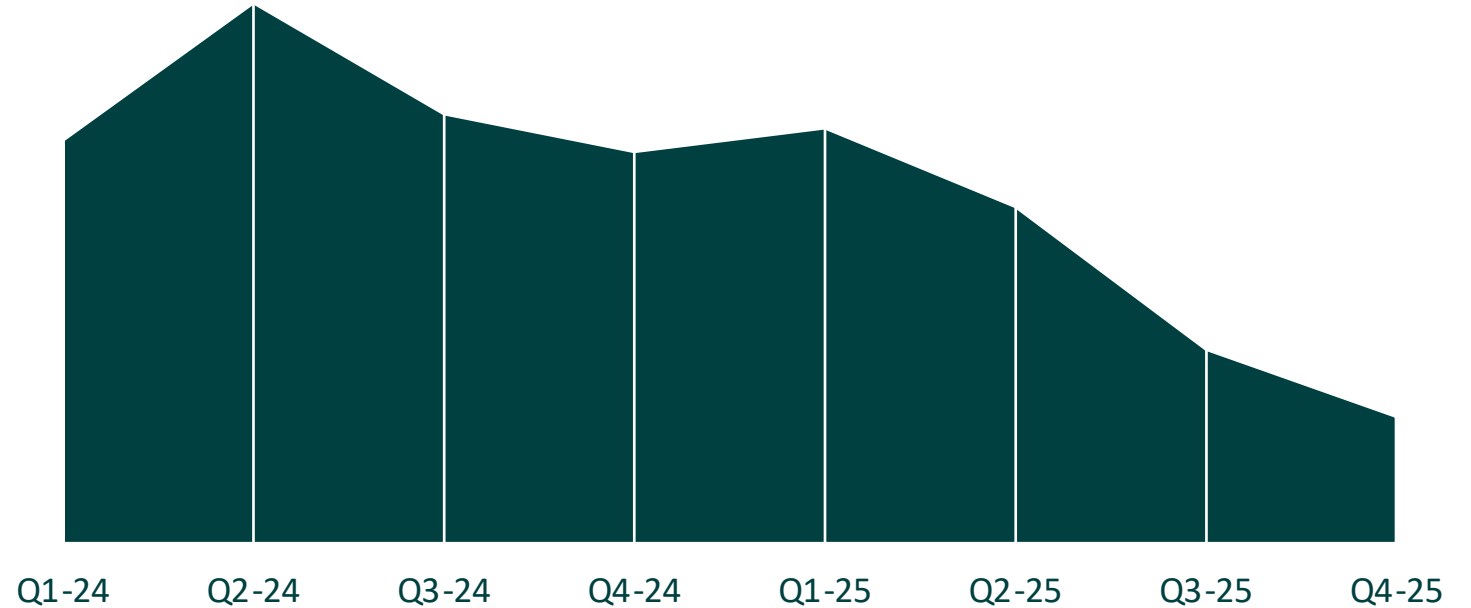


# Record Contracted Orderbook

## Net Contracted Orderbook



## Gross Orderbook Providing Record Visibility

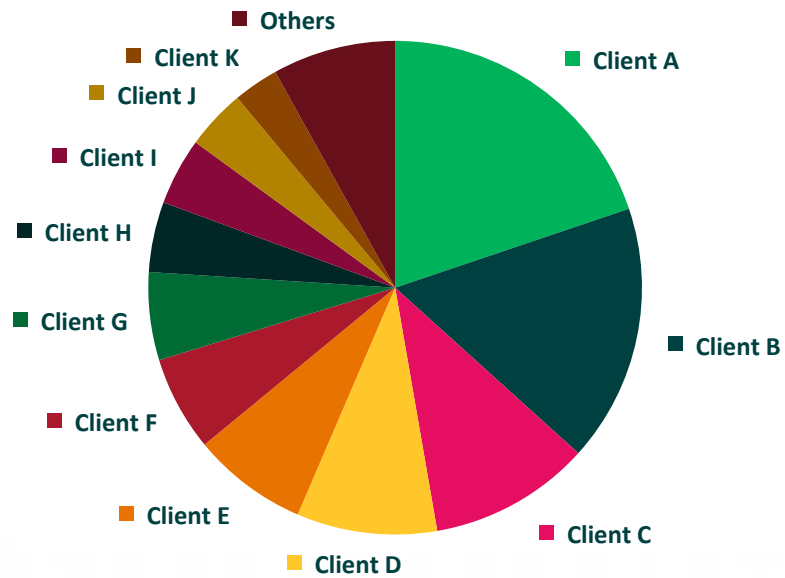


- Strong sales performance in 2023
- Growing orderbook after record revenue performance
- 90% of 2024 revenue covered by existing orderbook
- Good visibility into 2025

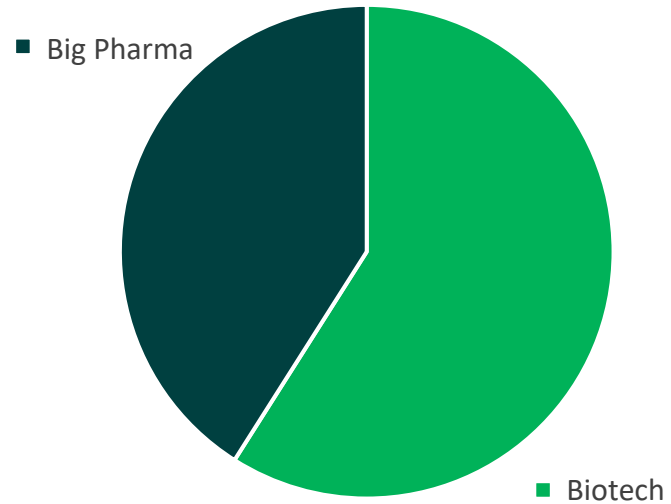
- £16.8m full-service RSV contract
- Bespoke hMPV challenge model contract
- £13.1m bespoke Flu B challenge model contract
- €3.2m Global Pharma consulting contract with Venn

# Diverse Contracted Orderbook

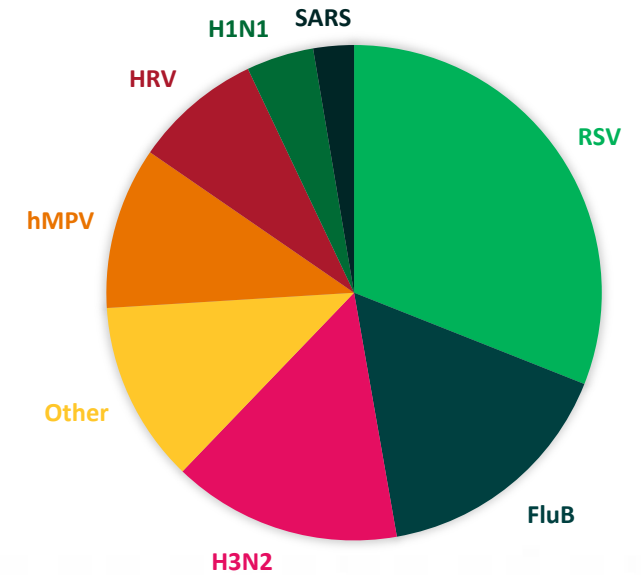
### Customer



### Client Type

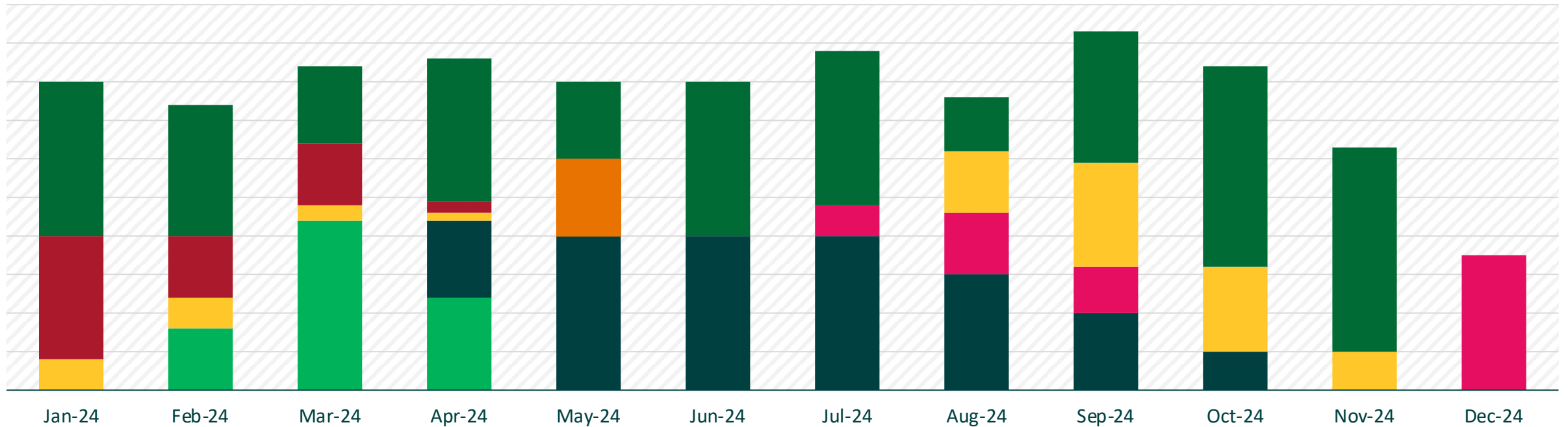


### Challenge Agent



# Diverse Orderbook - Driving Efficiencies

## #Inoculations by Challenge Model 2024



- Goal: utilise 3 different virus agents per month
- Multi-agent screening of volunteers
- Improves project delivery

- Increases efficiency
- Improved resource and site utilisation

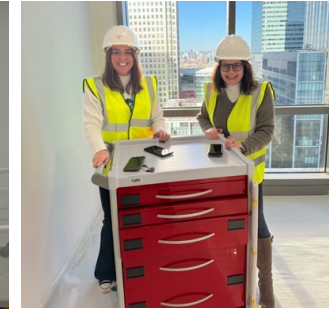
# New State-of-the-Art Facility at Canary Wharf

## On track to open H1 2024

- 50 quarantine bedrooms
- Virology and immunology lab
- CL-3 Lab
- Outpatient unit
- Corporate office

## Foundation for growth

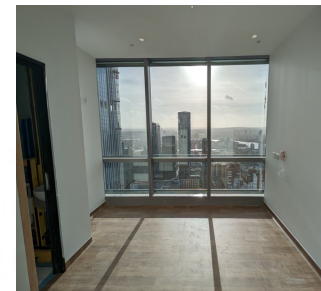
- Largely funded by clients
- Reduced cost per bed
- Aligned with current leases
- Potential to improve margins
- Increased revenue cap



## Progress Report

- |                                   |                     |
|-----------------------------------|---------------------|
| ✓ Floor plan and interior design  | ✓ Flooring          |
| ✓ Electrical & mechanical install | ✓ Painting          |
| ✓ Wall installation               | ✓ Lighting          |
| ✓ Ventilation system              | ✓ Quarantine doors  |
| ✓ Nursecall system                | ✓ Ensuite bathrooms |

## CANARY WHARF



# Improving Automation – Driving Efficiency

Shifting from paper-based processes to a fully integrated digital system

## Lab Information Management System (LIMS)

- Streamlined lab processes
- Enhanced interrogation readiness
- Integrated lab operation
- Improved efficiency

## Volunteer Management System

- End-to-end visibility of volunteer journey
- State-of-the-art CRM system
- Improving volunteer recruitment process
- Segmentation & profiling driving efficiency

## eConsent / eSource / EDC

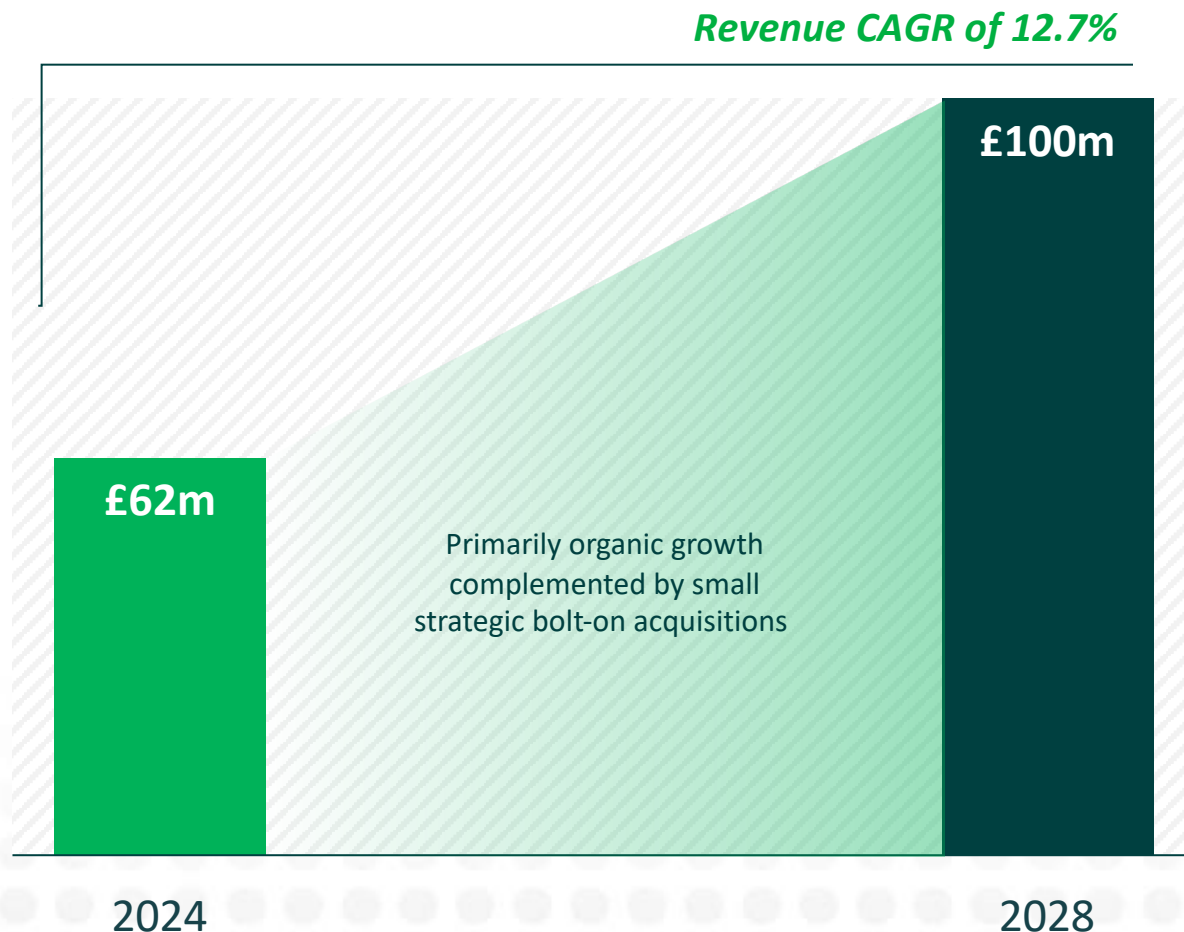
- Volunteer consent
- Instant access to data
- Increased compliance
- Enhanced study oversight





# Targeting £100m Revenue by 2028

Achievable through a combination of strong organic growth complemented with small bolt-on acquisitions that meet our disciplined strategic and financial criteria



1. Expansion of Lab Services
2. Full Service CRO Offering
3. Phase II / III Site Services
4. Volunteer Repurposing
5. Expansion of Venn Consultancy Services



## Continued Delivery

- Strong revenue, EBITDA, and sales
- Robust cash position
- Record inoculations
- Improving operational efficiencies and margins



## Scaling & Driving Efficiencies

- New CL-3 50-bedroom facility
- Increased lab capacity
- Increase outpatient capacity
- New challenge models
- New services



## Well Positioned for Future Growth

- Guiding £62m revenue 2024
- £80m weighted contracted orderbook
- 90% of 2024 revenue contracted
- Annual dividend
- Medium-term target of £100m revenue

A long-term sustainable growth model



**World Leading  
Capabilities**



**Expanding  
Market**



**High Barrier  
to Entry**



**Strongest Ever Sales  
Pipeline**







**hVIVO**  
*formerly Open Orphan plc*

Questions

# Appendix

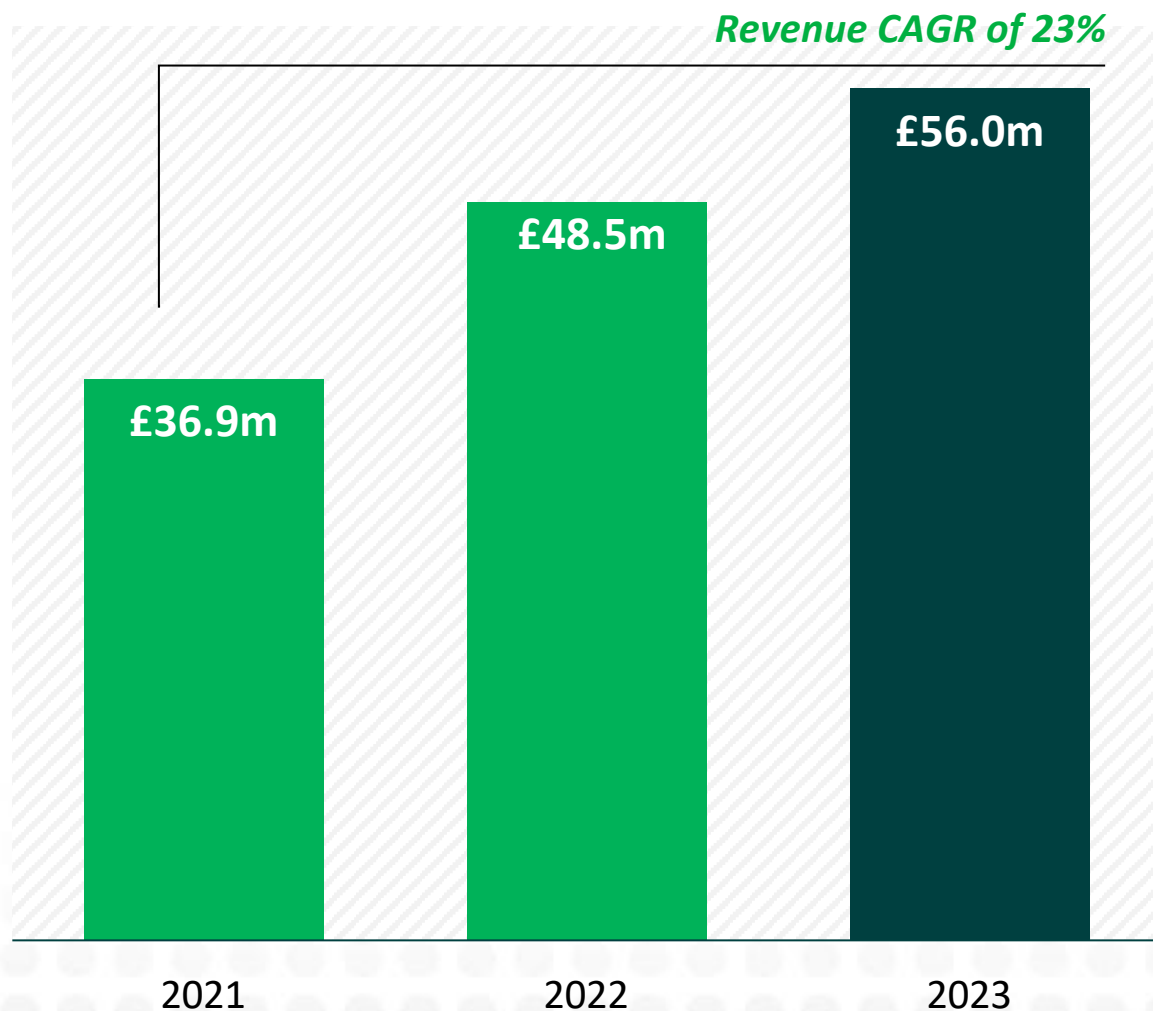
# 2023 - a Record Year of Growth

|   |  |  |   |
|---|--|--|---|
|  <p><b>Delivering Record Financial Performance</b></p> | <p><b>£56.0m</b><br/>Revenue<sup>1</sup><br/>2022: £48.5m</p>  | <p><b>c.22%</b><br/>EBITDA Margin<br/>2022: 18.7%</p>                  | <p><b>£37.0m</b><br/>Cash Balance<br/>at 31 Dec 2023</p>    |
|  <p><b>Exceptional Operational Execution</b></p>       | <p><b>9</b><br/>Active Human Challenge<br/>Trials in 2023</p>  | <p><b>100%</b><br/>Increase in Completed<br/>Lab Assays</p>            | <p><b>140k+</b><br/>FluCamp Leads<br/>Generated in 2023</p> |
|  <p><b>Scaling &amp; Driving Efficiencies</b></p>      | <p><b>New Facility</b><br/>Canary Wharf:<br/>Opening H1 24</p> | <p><b>New Models</b><br/>hMPV &amp; Flu B</p>                          | <p><b>New Services</b><br/>Lab, Site, Recruitment</p>       |
|  <p><b>Well Positioned for Future Growth</b></p>     | <p><b>£62m</b><br/>FY24 Revenue Guidance<sup>1</sup></p>       | <p><b>£80m</b><br/>Weighted Contracted<br/>Orderbook (31 Dec 2023)</p> | <p><b>£100m</b><br/>Target Revenue by 2028</p>              |

<sup>1</sup>Revenue excludes other income, such as R&D tax credits.



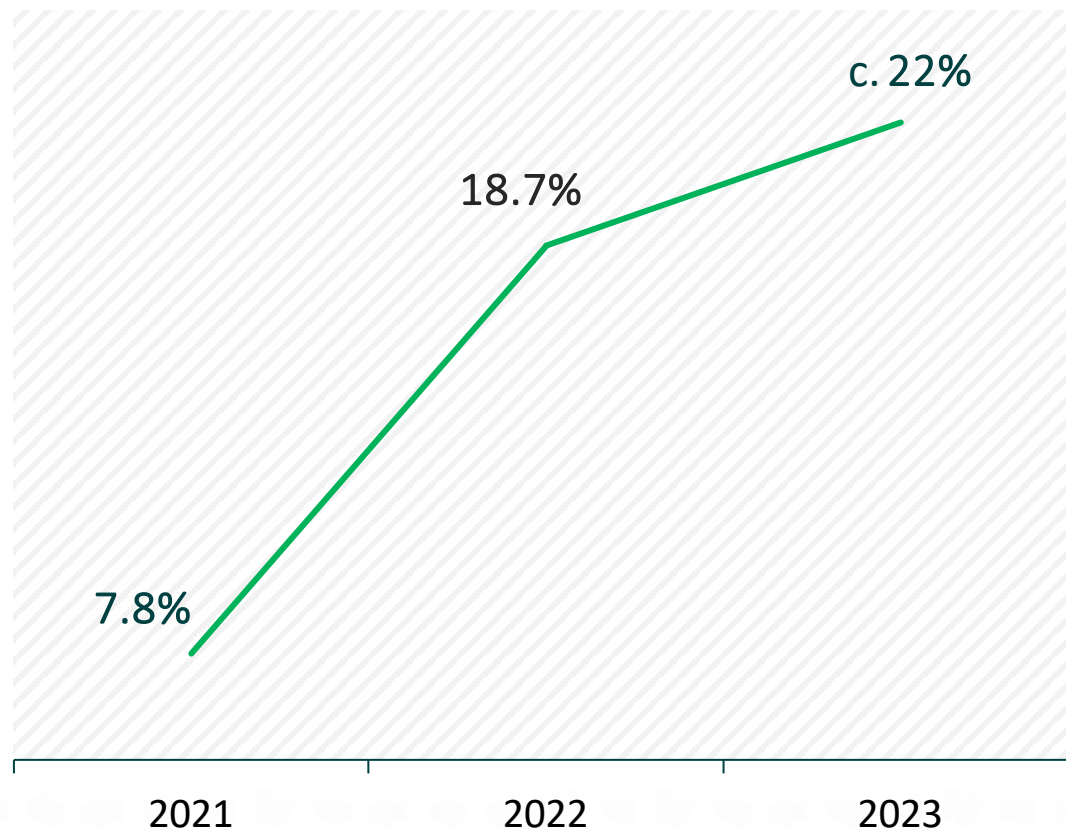
# Another Year of Record Revenue



## Revenue

- Record revenue of £56.0m for 2023
- Revenue increases 15.5% year-on-year
- 3 X bespoke / full-service contract wins
- Multiple studies run concurrently
- Venn consulting up >30%
- Larger studies and facility acceleration fees offset by impact of MHRA delays

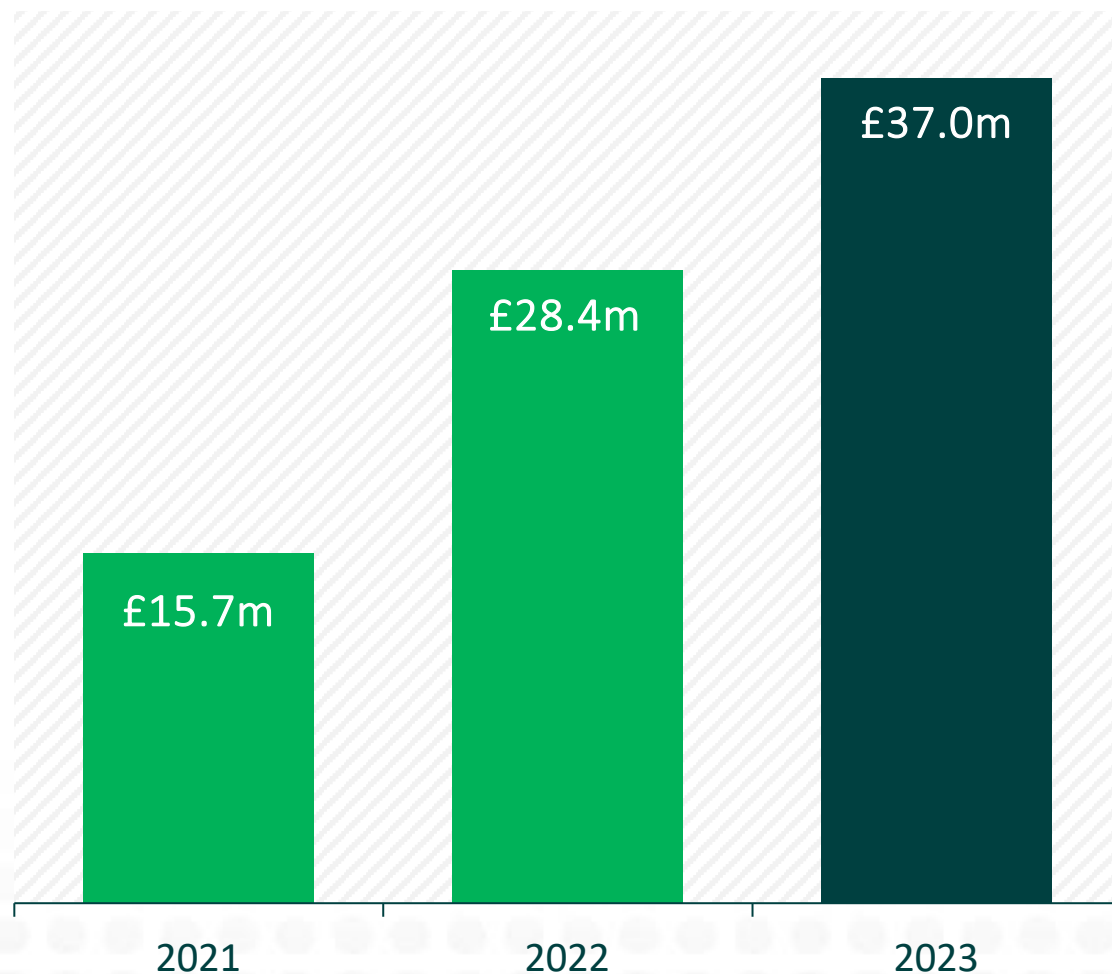
# A Sustainably Profitable Business



## EBITDA Margin

- 2023 EBITDA margin c.22%
- Strong operational delivery team
- Multiple studies run concurrently delivering recruitment efficiencies
- Greater volume leading to increased utilisation of staff and facilities
- Facility acceleration fees offset by impact of MHRA delays

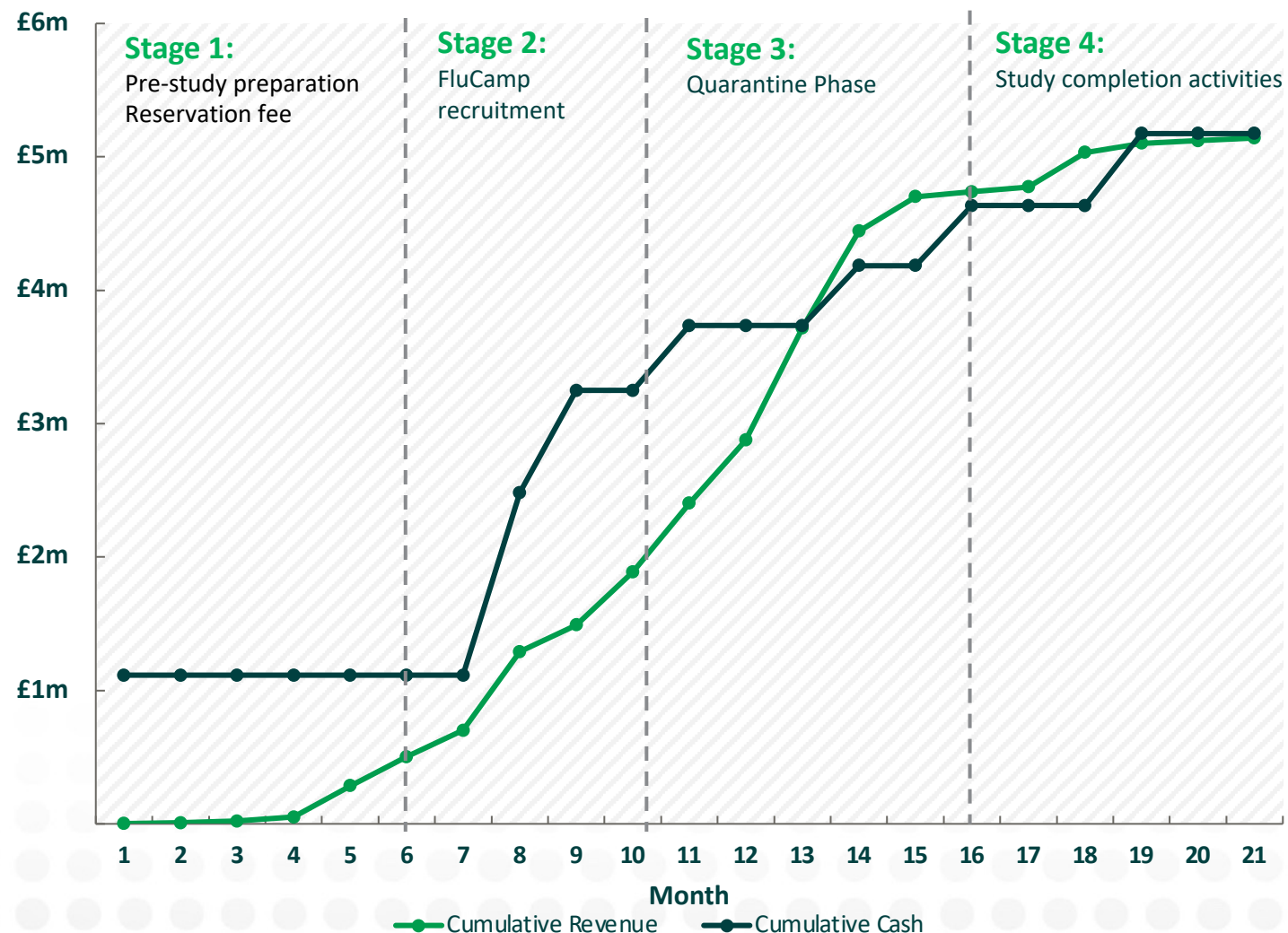
# A Sustainably Cash Generative Business



## Cash

- Strong cash position with £37.0m as at 31 Dec 2023
- Includes £3.0m dividend paid in 2023
- No debt
- Advanced fees from orderbook growth & contract delivery milestones
- Facility fee receipts in advance of spend
- Increasing underlying operating margins
- Annual dividend to be paid in 2024

# Challenge Trial Revenue Recognition Profile



- hVIVO receives an upfront, non-refundable booking of c.10-20% of total study value to reserve quarantine space
- This mitigates against the risk of cancellation or client delay
- Majority of revenue recognition relates to the recruitment and quarantine phase of the study

# History of hVIVO

**1946**

UK Government establishes the human challenge Common Cold Unit in Salisbury, UK.



**RETROSCREEN VIROLOGY**  
CONQUERING VIRAL DISEASE

**1989**

Common Cold Unit closes. Retroscreen Virology is founded by Prof John Oxford & Pat Meeking

**2001**

Retroscreen's first human challenge trial

**2001-2007**

Retroscreen recruits 800+ influenza volunteers



**Venn Life Sciences**  
Think Research

**hVIVO**

**2015**

Retroscreen Virology rebrands as hVIVO

**2011-2015**

Major investment in facilities & challenge model development



**2008**

Dedicated Volunteer recruitment platform

**Dec 2019**

hVIVO acquired by Open Orphan

**June 2019**

Venn acquired by Open Orphan

**UK COVID CHALLENGE**

**2020**

hVIVO partner with UK Government to conduct world's first COVID-19 challenge trial



**2021**

Spin out of infectious disease product portfolio: Poolbeg Pharma plc

**FluCamp**

Clinical Trials Recruitment

**2022**

Expanded facilities; increased lab offering and expanded clinical trial offering

**hVIVO**

Open Orphan plc rebranded to hVIVO plc

*Continuing to expand offering to drive new streams of revenue*



# World Leading Human Challenge Model Offering

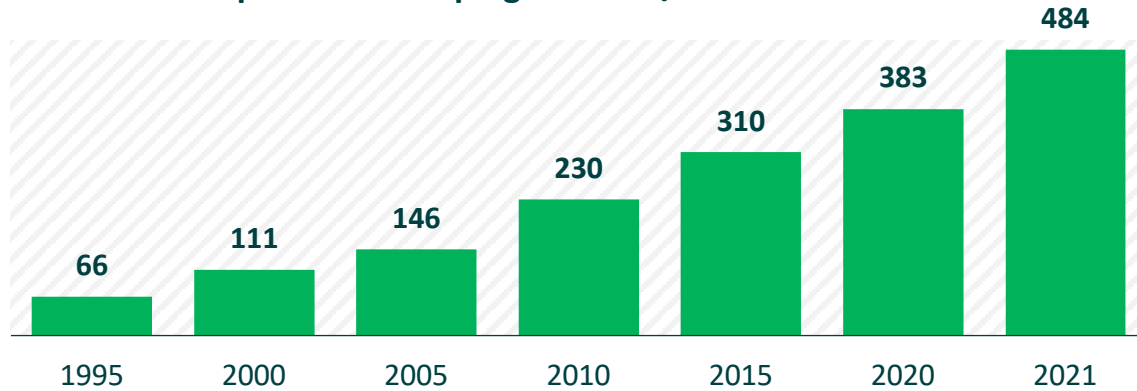
|              | Influenza      | RSV     | HRV     | Malaria       | Asthma | SARS-CoV-2 | hMPV      | Dengue    |
|--------------|----------------|---------|---------|---------------|--------|------------|-----------|-----------|
| Virus Strain | H3N2 Perth     | Memphis | HRV 16  | P. falciparum | HRV 16 | Pre-Alpha  | Strain A* | Dengue 1* |
|              | H3N2 Wisconsin |         | HRV 14* |               |        | Delta      |           | Dengue 3* |
|              | H1N1(F)        |         |         |               |        | Omicron*   |           | Dengue 4* |
|              | Flu B*         |         |         |               |        |            |           |           |
|              | H5N1*          |         |         |               |        |            |           |           |

\* In development

Potential for the future: Norovirus, Zika, Pneumococcal

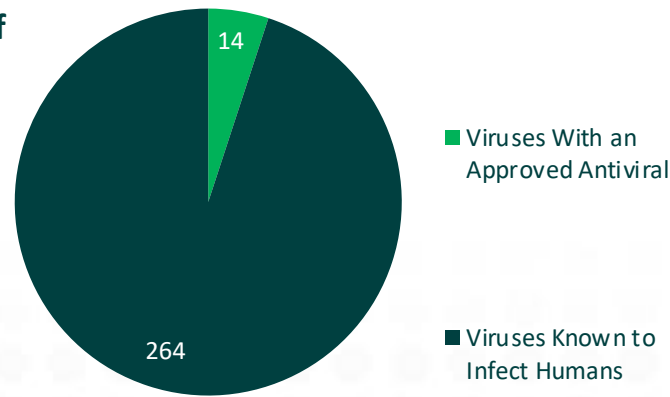
# A Growing Market

Companies Developing Vaccines/Antivirals Over Time



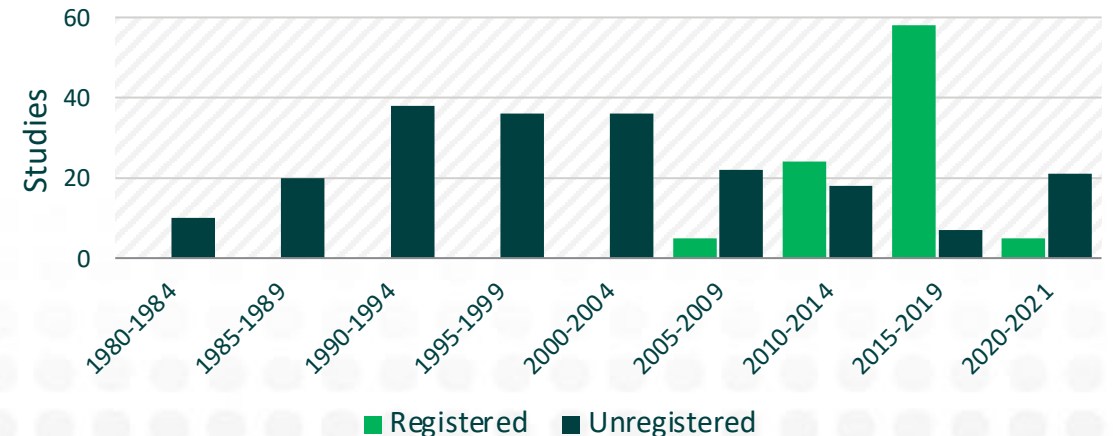
- Increasing number of vaccines and antivirals in development
- Need for new and improved vaccines & treatments
- Increased awareness of the value of HCTs
- Tighter funding environment increases HCT need

Antiviral development has been strong, but there is still plenty of room for further research.



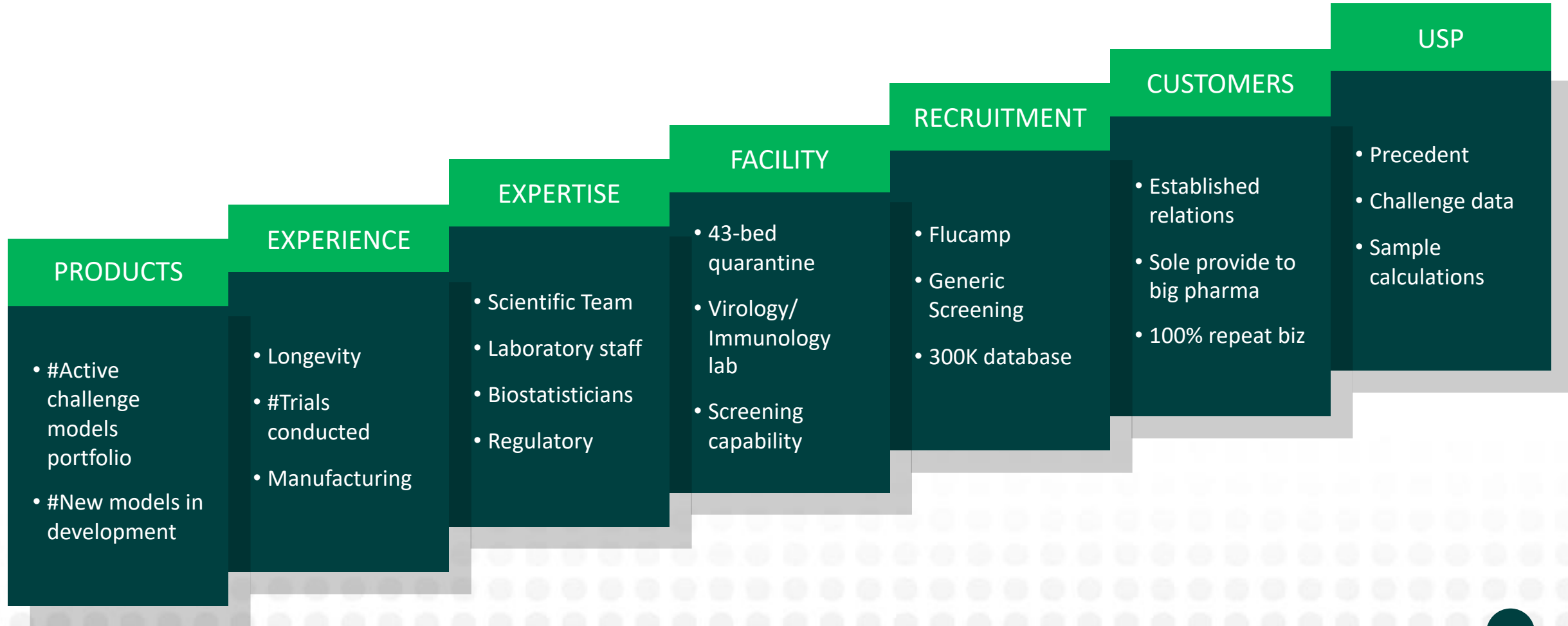
Source: Informa (Mar 2022).  
The Economist (Mar 2022).

Active Challenge Studies over Time (academic & commercial)



Source: MCSI, Informa (Mar 2022)

# Significant Barriers to Entry



hVIVO ESG Group established in 2023 for initiating, progressing, and monitoring our ESG objectives

Canary Wharf have a strong focus on ESG and will help us to reach our goals for improving and enhancing our corporate social responsibility

## hVIVO's ESG Values

- 1 *Commitment to ethical & compliant business practices*
- 2 *Advancing Health & Research*
- 2 *Commitment to Volunteers & Patients*
- 4 *Commitment to our Staff*
- 3 *Social & Community Investment*
- 6 *Operating Sustainably*

## Canary Wharf ESG



**5G & WIFI**  
Future proofed, superfast connectivity  
Logos: CISCO, Vodafone, AWS, O2, Virgin, EE

**ALL WOOD FROM FSC CERTIFIED SUSTAINABLE FORESTS**

**LARGEST SUSTAINABLE DEVELOPER IN THE UK**

**ZERO WASTE TO LANDFILL FROM MANAGED AREAS SINCE 2009**

**AMAZON CLIMATE PLEDGE**  
The first in our sector to join

**25% LOWER NOX EMISSIONS THAN THE REST OF CENTRAL LONDON\***

**100% ELECTRICITY PURCHASED FROM RENEWABLE SOURCES**  
since 2012

**NET ZERO CARBON BY 2030**

**PLASTIC FREE**  
1<sup>st</sup> commercial centre to be awarded  
communities status from environmental charity Surfers Against Sewage

**BREEAM®**  
Targeting Outstanding

**9 MILLION**  
single use plastic (SUP) items eliminated and recycled

**EPC 'B' RATING**

# Facilities Overview

## QMB Clinic



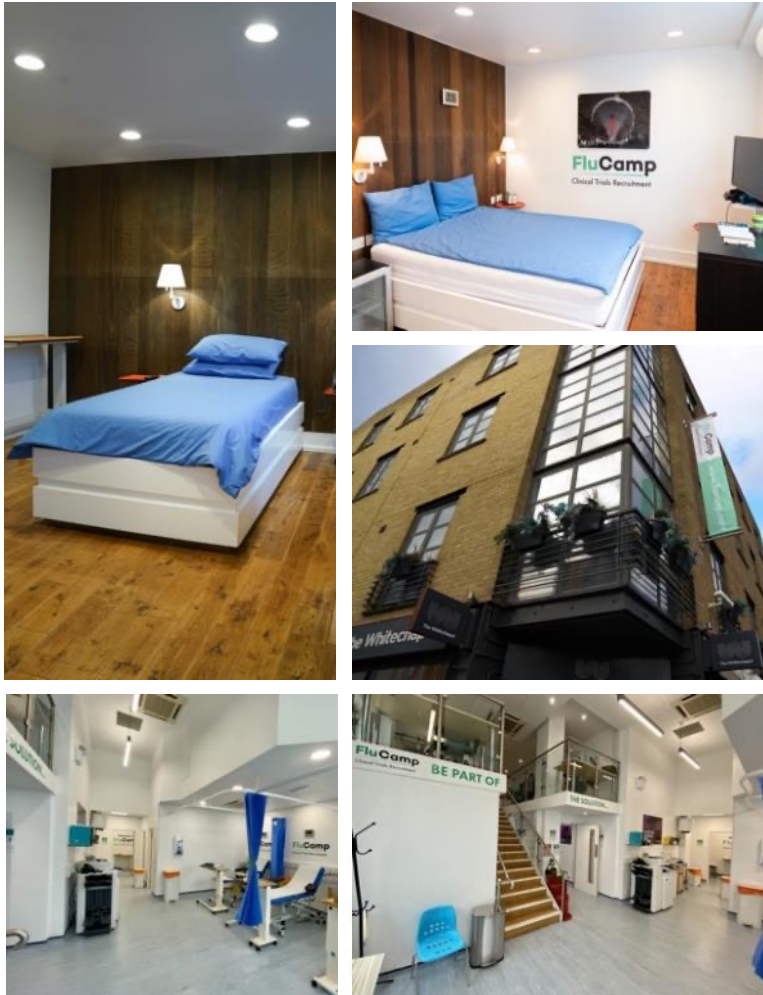
## QMB Laboratories





# Facilities Overview

## Whitechapel Clinic and Screening Centre



## Plumbers' Row Corporate Office & Screening Facility



## Manchester Screening Centre



## Biobank





**hVIVO**  
formerly Open Orphan plc

Stay in touch



Ticker: HVO