IMMUNOKEY

Gray Kueberuwa
CEO

Developing the Keys to Unlock Cancer Cures

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ImmunoKey is developing a first-in-class platform technology to unlock the potential of CAR T-cell therapy for solid cancers.

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Executive Summary

- ImmunoKey is developing a next generation chimeric antigen receptor (CAR) T-cell therapy for solid tumours with a novel platform design
  - ❑ *Allows targeting of multiple antigens*
  - ❑ *Innovation that mitigates toxicity risks to healthy tissues*
  - ❑ *Modular, scalable platform*
- Experienced team with a proven track record of creating value
  - ❑ *Founding, acquisition, obtaining granted patents, IPO and global clinical trials*
- Lead target of ovarian cancer with a product pipeline covering multiple tumour types.
- Estimated 5 years to critical clinical data.
- Following a founder's capital input of £650K, we are seeking funding of up ~£3.2M to produce POC and pre-clinical data over 2 years

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Limited Clinical Success of CAR-T Cell Therapy Against Solid Tumours

Haematological malignancies
Overall Response Rate = 71%

Solid tumours
Overall Response Rate = 20%

Causes:

- **Lack of "ideal" single tumour antigens in solid tumours**
- Comparatively reduced CAR T-cell persistence
- Immune suppression in the solid tumour microenvironment

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*Yu, W.-L.; Hua, Z.-C. Chimeric Antigen Receptor T-cell (CAR T) Therapy for Hematologic and Solid Malignancies: Efficacy and Safety—A Systematic Review with Meta-Analysis: *Cancers* **2019**, *11*(1), https://doi.org/10.3390/cancers11010047

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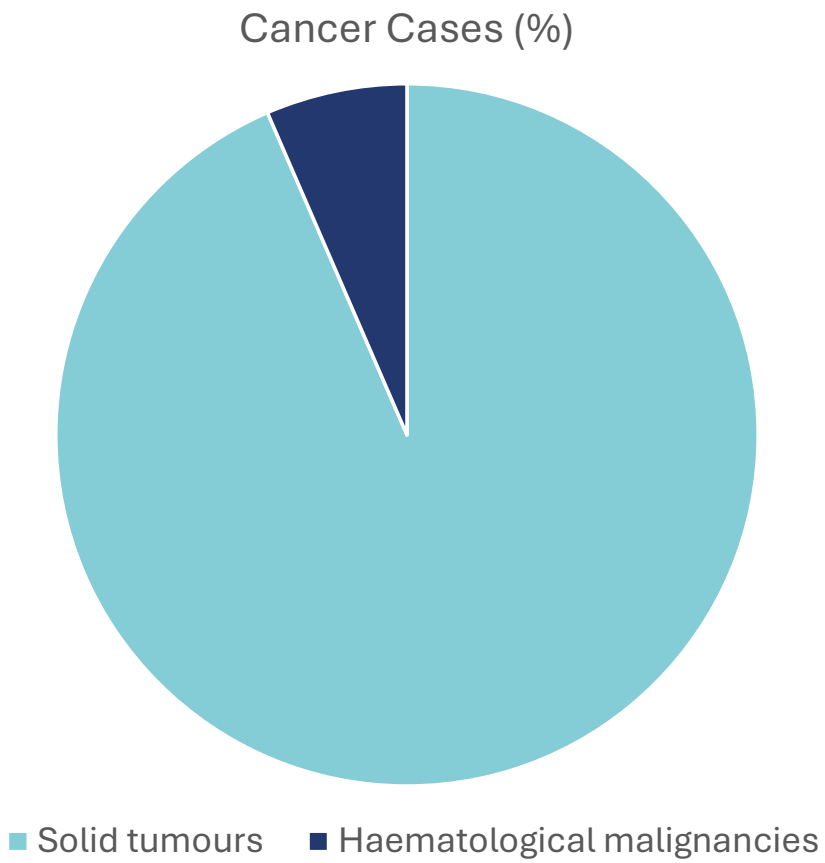
Solid Tumours make up over 90% of Cancer Cases



The Keys to unlock the potential of CAR T-cell therapy for solid tumours is to address the following barriers to clinical success:

- **Lack of "ideal" single tumour antigens in solid tumours** — **CARKey™**
- Comparatively reduced CAR T-cell persistence — **AmpliT™**
- Immune suppression in the solid tumour microenvironment — **ReviT™**

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*Ferlay J, Ervik M, Lam F, Laversanne M, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2024). Global Cancer Observatory: Cancer Today (version 1.1). Lyon, France: International Agency for Research on Cancer. Available from: https://gco.iarc.who.int/today, accessed 17 April 2025.

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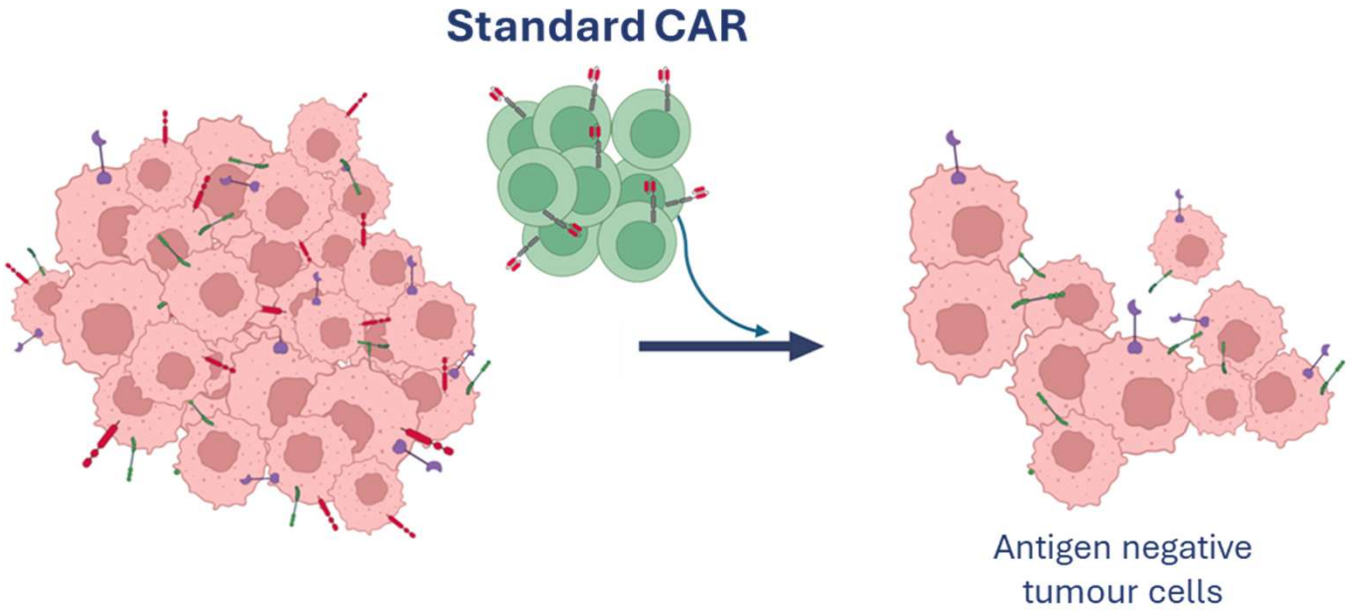
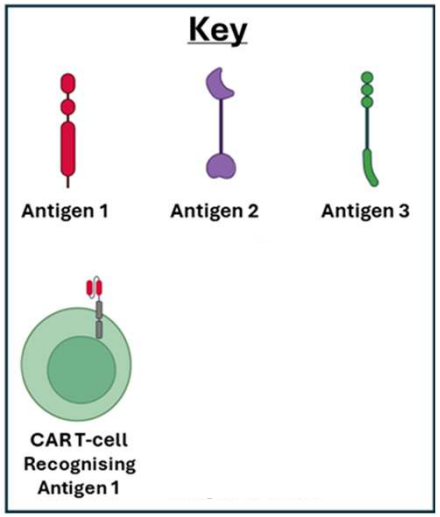
Heterogeneity of Solid Tumours leads to Ineffective CAR T-Cell Therapy





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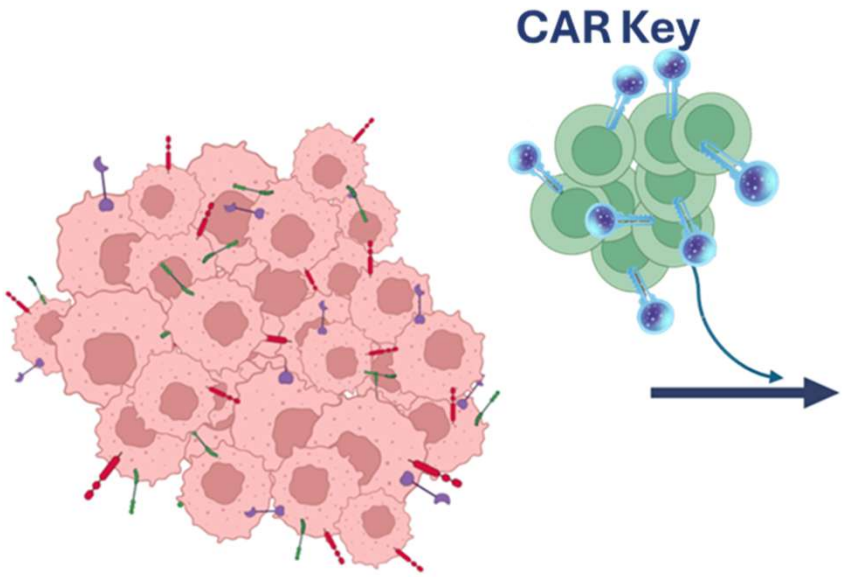
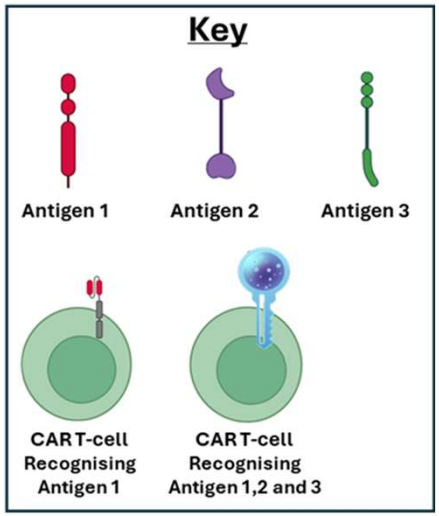
The CARKey™ Platform* overcomes the heterogeneity of solid tumours by targeting multiple tumour antigens



Complete tumour clearance

No antigen negative tumour cells



***Patent filed April 2025**

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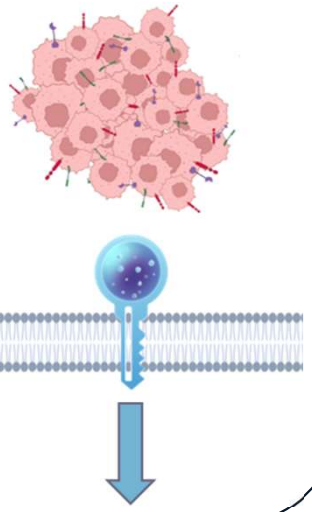
Unlocking the potential of CAR-T using synergistic platforms

Improved Tumour Targeting

CARKey™

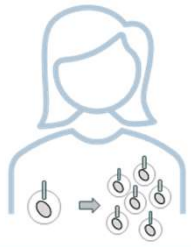
Maximal cancer cell elimination with technological innovation that mitigates toxicity to healthy tissues seen with historic approaches



Improved Persistence

AmpliT™

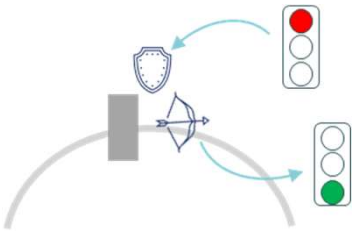
Induction of CAR T-cell proliferation *in vivo*

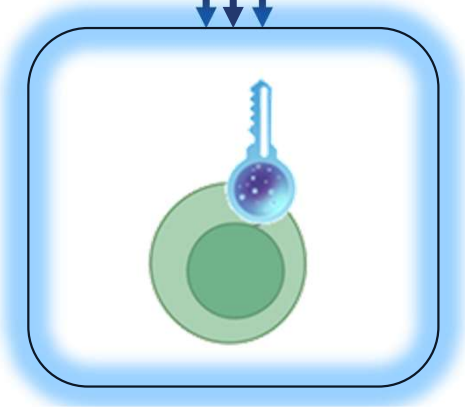


Reduced Immune Suppression

ReviT™

Improved functionality in the tumour microenvironment





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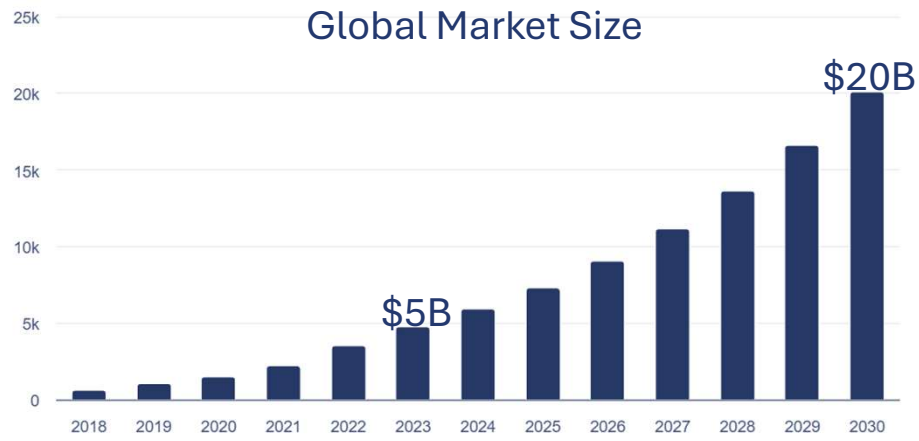
Market Analysis: Cell Therapy Outlook

- Global cell therapy market is forecast to have 26% cumulative annual growth from 2023 to 2030. Which would see annual revenues to increase from $5B to $20B*
- Manufacturing improvements are leading to decreased COGS, with some estimates at a potential 75% reduction**.
- ImmunoKey aims to enter market with partnership for *in vivo* delivery or FastCAR manufacturing method for minimal COGS
- Current market only addresses haematological malignancies, which makes up ~6.5%*** of cancer cases. **Addressing solid tumours could ultimately increase this market by 10 fold**



*https://www.grandviewresearch.com/horizon/outlook/cell-therapy-market-size/global
**Minsoo Khang, et al; Manufacturing innovation to drive down cell therapy costs; Trends in Biotechnology; 41(10), 2023, 1216-1219
****Ferlay J, Ervik M, Lam F, Laversanne M, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2024). Global Cancer Observatory: Cancer Today (version 1.1). Lyon, France: International Agency for Research on Cancer. Available from: https://gco.iarc.who.int/today, accessed 17 April 2025.

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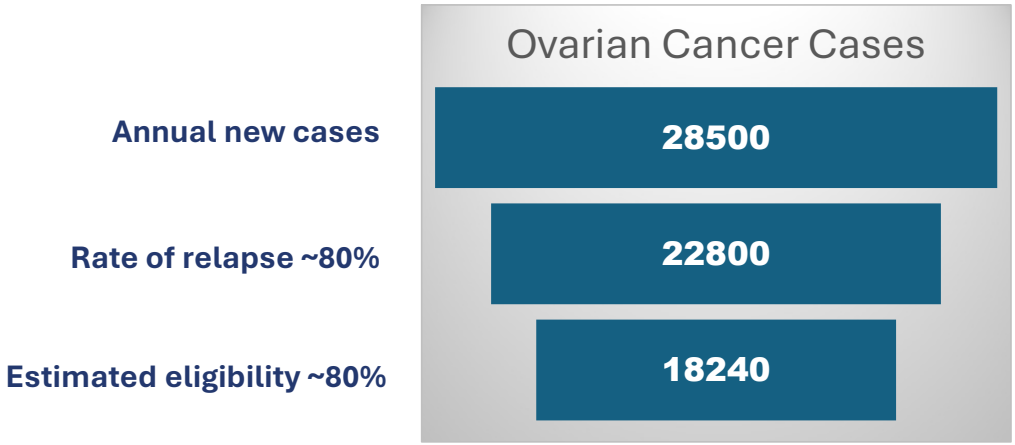
Initial Target Market: Ovarian Cancer Patients



- The CARKey Platform can be applied to a vast array of target antigen combinations. The 1st generation product will be applied to ovarian cancer.
- Example list prices of existing CAR T cell therapies in the UK are £280,451 (Axi-cel) and £416,314 (Aucatzyl)
- Initial 5% UK and USA annual market capture ~£347M. With potential >£4B with 60% market share
- Additional pipeline products to target other cancers – including renal, breast, and lung cancer with each having potential >£5B global market

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Advantages of ImmunoKey Technology in Ovarian Cancer

Company	Country	CAR	Stage	Targeting Ovarian Cancer?	Multi specific?	Addressing Off target toxicity?	Addressing Antigen Escape?	Addressing Persistence?	Addressing TME?
IMMUNOKEY	UK	Undisclosed	Discovery	✓	✓	✓	✓	✓	✓
Adaptimmune	USA	TRuC-T-cells – T-cell receptor fusion targeting MSLN	Phase 1/2	✓	X	X	X	X	X
BIONTECH	GER	CLDN6-CAR-T	Phase 1/2	✓	X	X	X	✓	X
CARGO THERAPEUTICS	USA	Tri-cistronic CD19/CD20/CD22	Preclinical	X	✓	X	✓	X	X
celllectis EDITING LIFE	France	UCART CD20x/CD22 UCART MSLN/ FAP	Phase 1 Pre-clinical	X	✓ X	X	✓	X	X ✓
Leucid	UK	LEU011 NKG2DDAP10.12 + CXCR2	Phase 1	✓	X	X	X	X	✓
EUREKA THERAPEUTICS	USA	WT1 TCRAb + CD3.cd28 Costimulatory molecule	Pre-clinical	✓	✓	✓	X	X	X
ArsenalBio	USA	AB-1015, ALPG/P+ MSLN (AND gate) Fas and PTPN2 shRNA	Pre-clinical	✓	✓	✓	X	X	✓

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Experienced Leadership

- Conducted first CAR T-cell therapy trials in the UK
- Founded Immetacyte Ltd
  - Profitable GMP Cell Therapy manufacturing CDMO
  - Established Internal R&D to establish a product pipeline
  - Raised ~£8M in non-dilutive funding
- Immetacyte Ltd acquired by Instil Bio
  - For cash, shares and milestone payments
  - Leadership team continued within Instil Bio structure
- (Instil Bio) raised $750M, including $370M IPO
- (Instil Bio) initiated phase 2/3 non-modified TIL, and phase 1 gene-modified TIL trials, MHRA and FDA approvals with in-house ATMP manufacturing
- Led European wide CAR T-cell Therapy research groups – ATTACK, ATTRACT, FP7
- Key publications on CAR T cell therapy, TILs, TCR therapy, mechanisms of T-cell stimulation
- Patent claims granted for chimeric molecules for T-cell Therapies

Gray Kueberuwa DPhil.
CEO, Director

John Bridgeman PhD.
CSO

Ryan Guest PhD.
Non-Executive Director

Nikki Price PhD.
Non-Executive Director

Robert Hawkins MB BS FRCP PhD.
Chairman/Non- Executive Director

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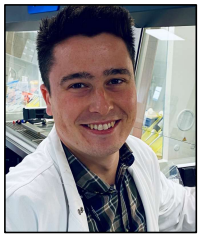
Lean, Experienced Research Team

Cell Therapy Development Pathway

Concept generation	Concept validation in vitro	Target and indication shortlisting	Platform optimisation	Lead candidate selection	Assay development	Regulatory submission enabling studies	Regulatory submission	Clinical Study

Jordan Hartley
Scientist

Owen Moon
Senior Scientist



Leyuan Bao
Director of Research

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Costing Projections

- ~£25-30 Million investment over 5 years is required for development of lead product to critical clinical data and additional pipeline product to pre-clinical validation
- Aim to achieve this through a series of milestone driven investments

Projected Spend by Category (£ 000's)

Category	Year 1	Year 2	Year 3	Year 4	Year 5	
People	£550	£677	£1,100	£1,100	£1,100	
Research Consumables	£83	£84	£120	£120	£120	
Contract Research Services	£101	£324	£200	£200	£200	
Legal (inc In-Licensing, IP & insurance)	£81	£306	£150	£150	£150	
Estates	£28	£115	£80	£80	£80	
Operational Expenses (inc taxes, office expenses, entertainment)	£142	£267	£250	£250	£250	
Capital Equipment and maintenance	£132	£203	£200	£200	£200	
Tech transfer to CDMO	£0	£0	£2,000	£0	£0	
GMP manufacturing	£0	£0	£2,000	£2,000	£6,000	
Clinical Trial	£0	£0	£500	£1,500	£3,000	**5 year Total**
Total	£1,117	£1,976	£6,600	£5,600	£11,100	**£26,393**

*Year 1-2 detailed estimates
Years 3-5 projections based on last known pricings, estimation of trial design, clinical manufacturing, and staff requirements

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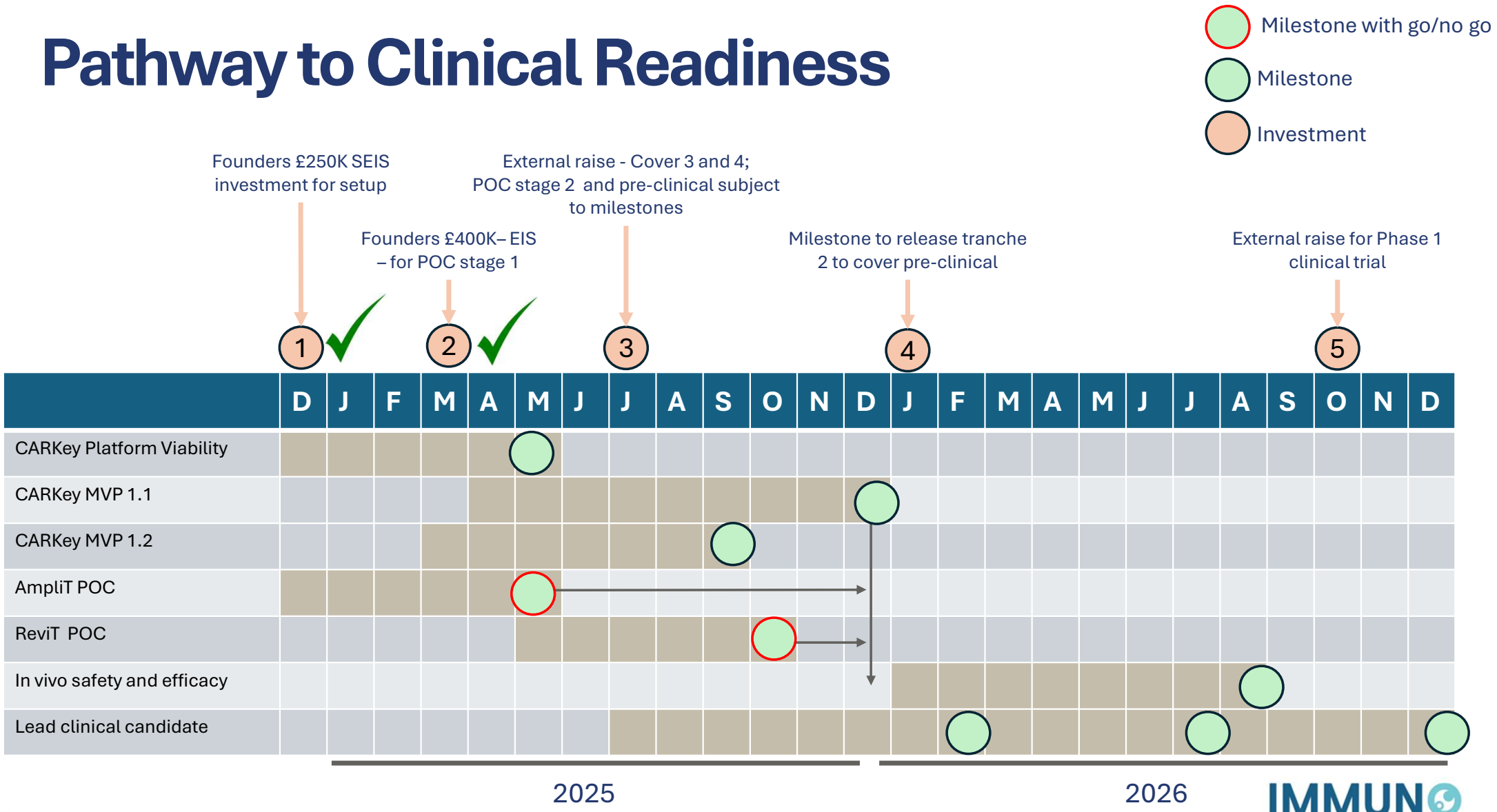
Pathway to Clinical Readiness



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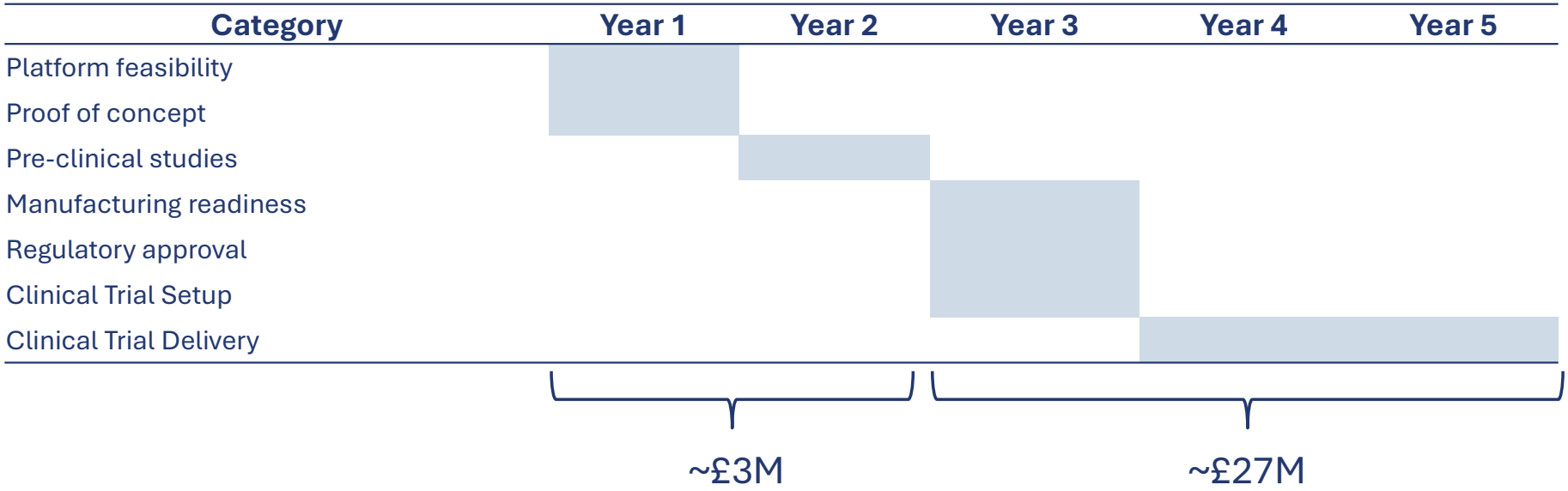
Costing Projections and Milestones

- ~£25-30 Million investment over 5 years is required for development of lead product to critical clinical data and additional pipeline product to pre-clinical validation
- Aim to achieve this through a series of milestone driven investments

Projected Spend by Category (£ 000's)



*Year 1-2 detailed estimates
Years 3-5 projections based on last known pricings, estimation of trial design, clinical manufacturing, and staff requirements

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Achievements from Nov 2024 to Present

- ✓ **Established Vision and Mission**
- ✓ **Raised 250K to cover setup activities**
- ✓ **Raised 400K to cover initial activities for year 1**
- ✓ **Demonstrated viability of the CARKey platform**
- ✓ **Patent filed for protection of the CARKey platform**
- ✓ **Established bioinformatics collaboration with Oxtium**
- ✓ **Won a place on Bruntwood Accelerator Programme**
- ✓ Generated brand logo, platform names
- ✓ Established Research operations
- ✓ Met GMO requirements
- ✓ Established essential CARKey FTO
- ✓ Established career development plans for research staff
- ✓ Established HR infrastructure
- ✓ Rolled out pension plan
- ✓ Established Accounting and finance infrastructure
- ✓ Onboarded legal firm
- ✓ Finalised legal processes and templates
- ✓ Secured 2 licences for open access laboratory and established estates strategy
- ✓ Establishes internal governance and procedures
- ✓ Established business plan
- ✓ Established financial model
- ✓ Established Pitch deck for external communications
- ✓ Launched website, LinkedIn, google business account
- ✓ Onboarded Vestd for Companies House and share plan management
- ✓ RFI to shortlist antibody campaigns vendors

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Return on Investment

After 5 years we anticipate proof of concept clinical study enabling routes for further development

Merger and Acquisition (**Target**)

- Acquisition by Pharmaceutical company with proven ability to commercialise and deliver to patients.
  - *Kite $12B; 2017, Juno $9B; 2018, Poseida $1.5B; 2025*

Internal Development (**Optional**)

- IPO to raise required funds for further development – IPO would be expected to value company >$1B
- Partnership with organisation with infrastructure, resources and expertise for commercialisation

Out licencing technology (**Optional**)

- IP developed can potentially be out licenced to companies developing non-competing technologies.
- AmpliT and ReviT can be considered for out licencing to companies with non-competing T-cell based interventions
- Antibody sequences produced and owned can be out licenced for therapeutic interventions relying on binding target antigens such as bispecific antibodies and ADCs

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ImmunoKey is poised to become a leader in next-generation cancer therapies

- **First-Mover Advantage** — Window of opportunity with limited competition and high unmet need.
- **Proven Leadership** — A team with a track record of success in cell therapy development.
- **Scalable Core Platform** — The CARKey platform offers a unique competitive edge, with potential applications across multiple cancer types. Patent filed.
- **Pipeline** — Additional research streams aimed to enhance CARKey, and other T-cell therapy products.
- **Strong Market Potential** — A clear path to significant revenue generation in UK and USA markets, with opportunities for global expansion.
- **Seeking ~£3.2M** — To deliver proof-of-concept and pre-clinical data by December 2026 to enable a phase 1 trial in ovarian cancer patients.

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