

# Cambridge Can: Bring AI to life



**Innovation**

**Cambridge**

**Implementation**

March 2025

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[I.]

# Cambridge Can: Bring AI to Life

$$AI = (R+I+P)^C$$

AI = ARTIFICIAL INTELLIGENCE ECOSYSTEM

R = RESEARCH (WORLD-LEADING RESEARCH)

I = INDUSTRY INNOVATION

P = PUBLIC SECTOR IMPLEMENTATION

C = CAMBRIDGE

As universities, businesses, and local government institutions across our region, we are jointly committed to making Cambridge a global force in AI research and an engine for innovation that serves the public good. Together, we are advancing the frontiers of AI research, enabling new AI companies, and responsibly adopting these technologies in our public and private sectors.

**Cambridge's AI ecosystem brings together world-leading research, industry innovation, and public sector implementation to deliver real-world impact for citizens while strengthening the UK's global competitive position.**

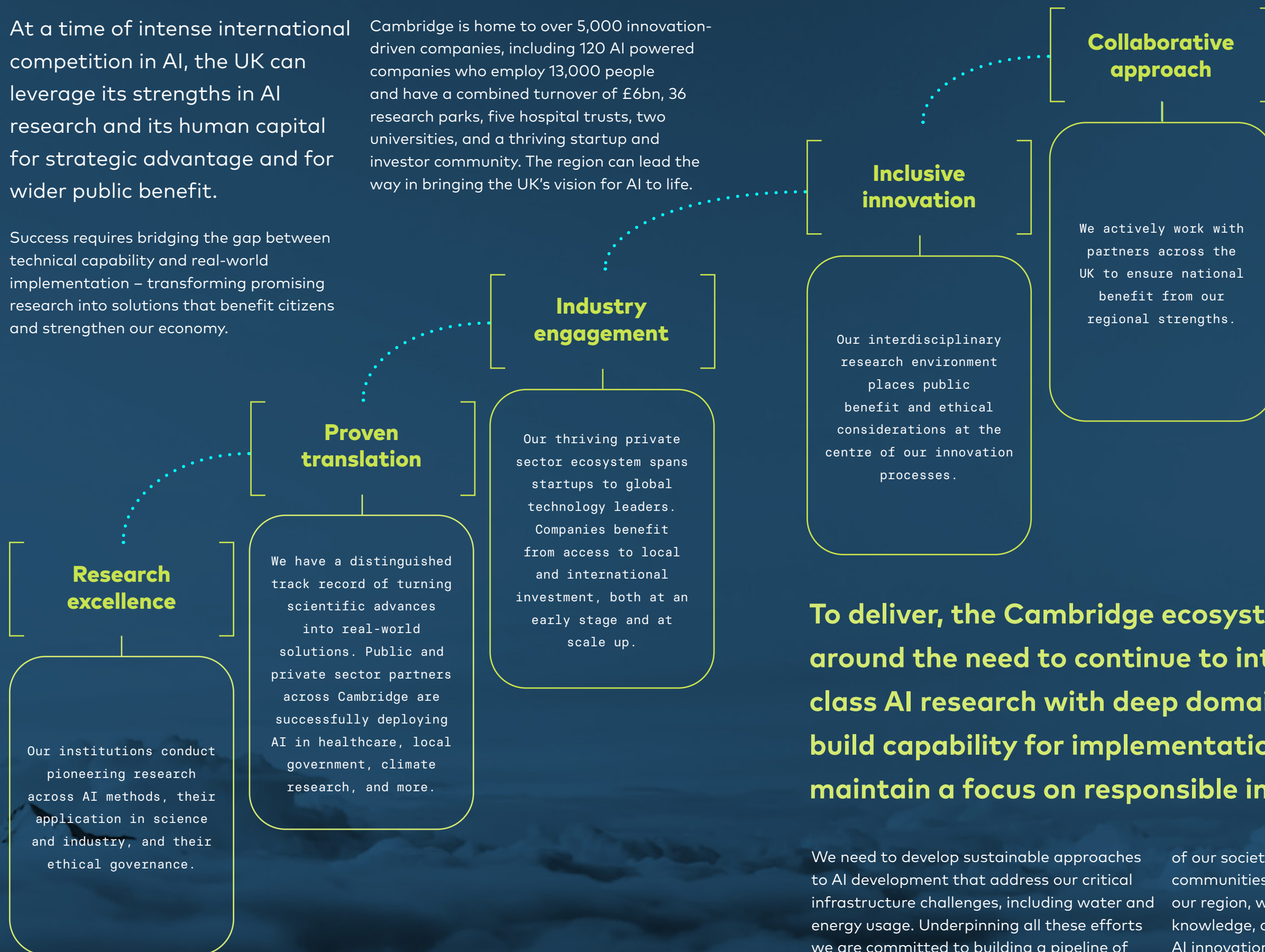


# Cambridge Can

At a time of intense international competition in AI, the UK can leverage its strengths in AI research and its human capital for strategic advantage and for wider public benefit.

Success requires bridging the gap between technical capability and real-world implementation – transforming promising research into solutions that benefit citizens and strengthen our economy.

Cambridge is home to over 5,000 innovation-driven companies, including 120 AI powered companies who employ 13,000 people and have a combined turnover of £6bn, 36 research parks, five hospital trusts, two universities, and a thriving startup and investor community. The region can lead the way in bringing the UK's vision for AI to life.



**To deliver, the Cambridge ecosystem is united around the need to continue to integrate world-class AI research with deep domain expertise, build capability for implementation at scale, and maintain a focus on responsible innovation.**

We need to develop sustainable approaches to AI development that address our critical infrastructure challenges, including water and energy usage. Underpinning all these efforts we are committed to building a pipeline of diverse talent that ensures our AI base is both globally competitive and representative

of our society. We aim to foster connected communities by building AI capabilities across our region, widening access to the tools, knowledge, and know how that can support AI innovation.

# Our Commitment to Action and Impact

## Collaborative Impact

We are connecting Cambridge's AI ecosystem with partners across the UK and internationally to deliver public benefit. Together, we ensure AI development is responsible, inclusive, sustainable, and focused on delivering meaningful improvements to people's lives.

## Research and innovation

Our universities, research institutes, and private sector laboratories are driving interdisciplinary AI breakthroughs, from advancing foundation models to developing AI applications in healthcare, climate science, and agriculture. Our innovation hubs are nurturing AI startups and helping established companies integrate cutting-edge AI into their products and services.

## Skills and education

Our educational institutions are training the next generation of AI pioneers while supporting our current workforce to get AI-ready. Our local authorities are creating practical learning opportunities accessible to people of all backgrounds, while our regional partnerships ensure AI education contributes to building local and national business capability.

## Implementation and adoption

Our local authorities are demonstrating practical AI applications in planning processes, customer services, and transportation. Our healthcare institutions are implementing AI diagnostics and predictive tools that enhance clinical decision-making and improve patient outcomes. Our businesses are deploying AI solutions that increase productivity, sustainability, and innovation across sectors.

## Infrastructure

Our universities and public sector partners are developing the physical and digital infrastructures needed to support sustainable AI growth. Our knowledge transfer networks create pathways for AI innovations to move from research to implementation. Our public-private partnerships align resources to provide the compute capacity, data access, and technical support that enables innovation at scale.

# A National Vision

**With strategic government partnership and targeted investment, the Cambridge region is accelerating AI adoption that delivers on national priorities while ensuring the UK remains globally competitive.**

Our collaborative ecosystem is uniquely positioned to deliver the vision behind the Government's AI Opportunities Action Plan, helping the UK lay strong foundations for AI innovation, driving widespread adoption across sectors, and securing a sovereign capability in this strategically important technology.

By working collaboratively across Cambridge's AI ecosystem, we can strengthen the UK's AI capabilities while ensuring the benefits spread to all parts of the nation. Together, we can develop a model for responsible, sustainable AI innovation that benefits all parts of the UK and establishes the UK as a global leader in this transformative technology.

Cambridge has the academic expertise, the business community, and the civic infrastructure to be a global destination for AI innovation. To join us in showcasing this expertise during Cambridge Tech Week in September 2025, register your interest your interest via [ai.cam.ac.uk](https://ai.cam.ac.uk).



# [[.]] Research & Innovation

## Advancing next generation AI technologies

### The University of Cambridge

The University of Cambridge is developing next generation AI technologies that push forward technical capabilities. The Department of Engineering, Department of Applied Mathematics and Theoretical Physics, and Department of Computer Science and Technology host researchers working on diverse AI theories, methods and applications, from healthcare, to environmental protection, to robotics.

### Anglia Ruskin University

Anglia Ruskin University is driving challenge-led AI innovation that pushes the boundaries to foster human-AI cooperation and that ensures human values remain at the centre of AI.

## Driving interdisciplinary AI research

### ai@cam, University of Cambridge

Through its flagship mission, ai@cam, the University of Cambridge is supporting innovative interdisciplinary research that connects AI capabilities with societal challenges, creating new collaborations across domains from healthcare to climate science that advance research and translate it to policy and practice. The University hosts a diverse set of research centres engaged with this mission to advance AI that serves science, citizens, and society, including the Computation and Biological Learning Lab, MRC Cognition and Brain Sciences Unit, Department of Land Economy, Department of Psychology, Department of Zoology, Department of Geography, Department of Plant Sciences, Cambridge Conservation Initiative, Department of Physiology, Development, and Neuroscience, Department of Psychiatry, Judge Business School, Institute for Technology and Humanity, Faculty of Education, Faculty of Modern and Medieval Languages and Linguistics, Cambridge Language Sciences, Department of Architecture, and Kavli Centre for Ethics, Science, and the Public.

### Accelerate Science

Accelerate Science, the University of Cambridge's AI for Science centre, is advancing the frontiers of science using AI, through hands-on teaching and learning that has trained over 1500 researchers, targeted engineering support for AI for science projects, and collaborative research funding that has catalysed over 30 projects.

### Anglia Ruskin University

Anglia Ruskin University (ARU) leads innovative AI research that promotes human-AI collaboration with human values at the centre. Its interdisciplinary research spans multiple domains:

- in healthcare, ARU collaborates across departments to address cancer research (including among homeless populations), cardiovascular diseases, chronic disease management, digital twins, robotic surgery, and AI-enhanced primary care;
- in agriculture, ARU researchers are developing AI-controlled climate systems for vertical farming to improve productivity and food security;
- in environmental science, ARU is creating solutions for ecological challenges through real-time monitoring of livestock for disease detection and welfare improvement;
- in public service, ARU is developing AI frameworks to support the ethical application of AI, the public value, and AI security and safety; and
- in business and law, research is examining AI's impact on Internet connectivity and market power, addressing the workplace barriers in AI adoption and the impact on the employee with disabilities while promoting rights-based governance that ensures accountability, fairness, and public interest.

This comprehensive work is conducted across ARU's research centres, including the Advanced Computing Research Centre, Global Sustainability Institute, and several specialised institutes.

### Advanced Computing Research Centre

Anglia Ruskin University's Advanced Computing Research Centre (ACRC) works with industry, local governments, NHS, and non-profits to advance machine learning, human-AI collaboration, neuromorphic computing, and knowledge distillation, and edge AI. Their research tackles AI system challenges including security, safety, human integration, energy efficiency, and sustainability.

### The Bennett Institute of Public Policy

The Bennett Institute for Public Policy at the University of Cambridge is committed to interdisciplinary academic and policy research into the major challenges facing the world, and to high-quality teaching of the knowledge and skills required in public service.

### Cambridge Centre for Data-Driven Discovery (C2D3)

Cambridge Centre for Data-Driven Discovery (C2D3) enhances interdisciplinary data-enabled research at the University of Cambridge through co-sponsored funding calls, support for community-building, and knowledge-sharing activities across disciplines.

### Cambridge Institute for Music Therapy Research

The Cambridge Institute for Music Therapy Research (CIMTR) at Anglia Ruskin University develops AI and intelligent monitoring systems that process multimodal data from homes and treatment facilities, enabling evidence-based, real-time decision-making in real-world settings.

### Cambridge University Hospitals

Cambridge University Hospitals is developing and deploying AI technology in both clinical and operational settings to reduce time between referral and treatment, or target resources towards those most in need. (e.g. OSAIRIS tool for radiotherapy treatment).

### Cambridge Zero

Cambridge Zero harnesses the full range of the University of Cambridge's capabilities to achieve a resilient and sustainable zero-carbon world, integrating activities across research, education, stakeholder engagement, and decarbonisation.

### AI for Cultural Heritage Hub (ArCH)

The AI for Cultural Heritage Hub (ArCH) at the Cambridge University Library deploys AI to enhance access to Cambridge's galleries, libraries, archives, and museums, preserving and promoting cultural heritage through advanced digital technologies.

### Digital Innovation and Smart Places Group

The Digital Innovation and Smart Places (DISP) Group at Anglia Ruskin University group studies how to use AI responsibly in public services. They develop ethical frameworks for designing AI tools that can identify and address potential risks early to improve digital safety.

### The ELLIS Unit

The ELLIS Unit at the University of Cambridge brings together the University's leading talent in machine learning and AI, creating a cluster of excellence in foundational AI methods.

### EMBL-EBI

EMBL-EBI is one of the six sites of the European Molecular Biology Laboratory, an intergovernmental research organisation. EMBL-EBI manages the world's most comprehensive suite of freely available data resources and tools, which are essential for research, discovery and the development of innovative solutions to global challenges such as human health, food insecurity and biodiversity loss.

## Institute of Computing for Climate Science (ICCS)

The University of Cambridge's Institute of Computing for Climate Science (ICCS) develops technology to enhance climate research, bridging software engineering gaps between scientific computing and AI.

## The Institute for Technology and Humanity (ITH)

The Institute for Technology and Humanity (ITH) encompasses three research centres (Centre for Human-Inspired AI, Centre for the Future of Intelligence, Centre for the Study of Existential Risk), which convene a PhD programme and three Masters programmes, alongside a research programme investigating technological transformations and their implications for our societies, environment and world.

## International Policing and Public Protection Research Institute

The International Policing and Public Protection Research Institute (IPPPRI) at Anglia Ruskin University applies AI research to address public safety concerns, particularly child sexual abuse material (CSAM). Their work provides insights into the beginning and end of CSAM offences, supporting prevention efforts.

## The Minderoo Centre for Technology and Democracy

The Minderoo Centre for Technology and Democracy at the University of Cambridge is an interdisciplinary centre that focuses on radically rethinking the power relationships between digital technologies, society, and the planet.

## Royal Papworth Hospital

Royal Papworth Hospital is pioneering AI in healthcare through multiple initiatives, including a six-point roadmap to guide NHS trusts in AI adoption, the Project Breathe remote monitoring system for cystic fibrosis patients that enables earlier interventions, and the Brainomix e-Stroke system that delivers faster and more accurate stroke

diagnoses through AI-powered CT scan interpretation.

## Vision and Eye Research Institute

The Vision and Eye Research Institute (VERI) at Anglia Ruskin University uses AI and big data to advance personalised vision care and improve treatment outcomes for eye diseases.

## Wellcome Sanger Institute

The Wellcome Sanger Institute applies and explores genomic technologies at scale to advance understanding of biology and improve health.

## Bringing AI innovations to market

## Ahren

Ahren supports transformational companies at the intersection of deep tech and deep science that will penetrate or create massive markets through its investment approach.

## Amadeus Capital

Amadeus Capital invests in people who create transformational technologies and sustainable businesses, serving as a trailblazer in Cambridge's AI investment landscape for three decades.

## Anglia Ruskin University

Anglia Ruskin University is creating an AI innovation hub with prototyping facilities that help quickly turn ideas into testable products, providing an ideal environment for supporting new startups and helping them grow.

## The Bradfield Centre

The Bradfield Centre hosts AI-focused startups and scaleups, fostering innovation at the intersection of AI and industry.

## Cambridge Angels

Cambridge Angels provides smart capital from entrepreneurs to entrepreneurs, investing in a wide range of early-stage businesses with a focus on science and engineering-based innovation and healthcare.

## Cambridge Innovation Capital (CIC)

Cambridge Innovation Capital (CIC) is a leading venture investor committed to supporting the next generation of globally impactful deeptech and AI start-ups. As a co-founder of two accelerators in Cambridge and a co-founder of Innovate Cambridge, CIC plays a central role in fostering innovation and entrepreneurship. With a proprietary agreement with the University of Cambridge and strong connections across entrepreneurs and research institutes.

## Cambridge Consultants

Cambridge Consultants is partnering with companies to develop market-leading AI solutions that bridge the gap between advanced research and practical implementation.

## University of Cambridge

Cambridge University supports AI innovators to bring their ideas to market through training in AI for science and entrepreneurship, seed funding for AI startups, and support for researchers to commercialise their ideas. Activities include ai@cam's Sciencepreneurship initiative with the ELIAS Alliance, Cambridge Enterprise, and Founders at Cambridge.

## Cambridge Future Tech

Cambridge Future Tech is a deep tech venture builder that works with researchers and inventors to commercialise their technologies.

## Deeptech Labs

Deeptech Labs acts as a VC fund, accelerator, and catalyst for deeptech success, supporting many AI-first and domain-specific AI companies in their journey from concept to market.

## IQ Capital

IQ Capital invests in innovative Deep Tech companies with defensible IP, breakthrough technologies and global ambitions, guided by general partners with more than 20 years of experience in Cambridge's ecosystem.

## Marshall Futureworx

Marshall Futureworx brings highly creative engineering talent to create technology solutions for emerging global trends, partnering and collaborating to produce prototypes quickly and launch AI-enabled ventures.



[III.] Skills & Education

Cambridge City Council

Cambridge City Council's Region of Learning's digital badges help residents bridge skills gaps and unlock opportunities for young people across the region.

Cambridgeshire and Peterborough Combined Authority

Cambridgeshire and Peterborough Combined Authority's partnership with the Chamber of Commerce on the Local Skills Implementation Plan develops regional AI talent.

CPCA supports the Government's pledge to train 10,000's of AI professionals, equipping our current and future workforce with the skills needed across our priority sectors in AI, Life Sciences, Advanced Manufacturing, Digital and Agri-Tech.

South Cambridgeshire District Council

South Cambridgeshire District Council' AI Club encourages all staff to engage with AI regardless of technical background, fostering a culture of innovation and practical application.

Anglia Ruskin University

Anglia Ruskin University is developing a flexible, industry-relevant education system to address the AI skills shortage. This includes both traditional academic programs and short professional training courses, which will both retrain current workers and prepare new people to enter the AI workforce.

The Bradfield Centre & TechEducators

The Bradfield Centre & TechEducators partnership is delivering AI education at multiple levels, from deeply technical AI training to community learning that develops AI potential across diverse communities.

University of Cambridge

The University of Cambridge is integrating AI skills across disciplines through innovative teaching approaches, from undergraduate education to executive training, in addition to hosting a diverse range of masters courses and PhD programmes in areas from data intensive science to AI ethics and society.

Cambridge University Press and Assessment

Cambridge University Press and Assessment combines the University's publishing and assessment operations to deliver high-quality academic content and educational assessments globally, leveraging digital tools and AI to enhance learning experiences, develop innovative educational resources, and create accessible pathways to knowledge for millions of learners worldwide.executive training.

Form the Future CIC

Form the Future CIC is a (not-for-profit) careers and employment company, helping young people progress through education into employment and providing employers with access to their future talent.

Raspberry Pi Foundation

Raspberry Pi Foundation works at the leading edge of AI education, bringing together research and industry expertise with practical classroom experience to define what AI means for computing education and how to best support teachers and learners in understanding this rapidly evolving technology



T = TALENT  
C = CAMBRIDGE



# [IV.] Implementation & Adoption

## Public sector

### Cambridge City Council

Cambridge City Council is deploying AI technologies in planning processes, customer services, and civic engagement platforms, showing how AI can enhance public services.

### Greater Cambridge Partnership

Greater Cambridge Partnership is pioneering autonomous public transport vehicles, demonstrating how AI can deliver practical benefits for sustainable urban mobility.

### South Cambridgeshire District Council

South Cambridgeshire District Council has implemented AI in their website and contact centre, reducing call volumes while focusing human resources on complex citizen interactions; and is deploying AI technologies in planning processes.

### Cambridge University Health Partners

Cambridge University Health Partners leads the life sciences strategy in the region and is delivering a combined data and AI strategy as part of their ambition.

### Cambridge University Hospitals

Cambridge University Hospitals is developing Cambridge as a world centre for AI and health, leveraging its ecosystem of over 30 science partners and 500 life sciences companies to create predictive, personalised healthcare tools that can benefit patients nationwide.

### Cambridgeshire and Peterborough Combined Authority (CPCA)

CPCA is advancing AI adoption to enhance efficiency, service delivery, and automation. Collaborating with national and regional partners, we are establishing best practices and regulatory frameworks. We are working in partnership with the Local Government Steering Group considering all areas of AI adoption and policy development.

## Private Sector

### Altos Institute of Computation

Altos Institute of Computation builds computational models that decode the language of biological resilience at the cell, organ, and organism levels to achieve its mission of using AI to advance biological understanding.

### Amazon's Cambridge Development Centre

Amazon's Cambridge Development Centre houses teams focused on pioneering areas including Amazon Alexa, Amazon Devices, Simulation and Experimentation, and Amazon Web Services.

### Apple

Apple is expanding its Cambridge-based AI operations, with several hundred team members working on artificial intelligence and machine learning projects at its new office, opened in 2023.

### Arm

Arm is shaping the future of computing through its AI-driven CPU and system architectures that define the fundamental operation for many of the world's computers, adapting to the evolving demands of AI applications.

### AVEVA Group plc

AVEVA Group plc pioneered computer-aided

design from its Cambridge origins in 1967, now delivering AI-enhanced information technology solutions for industry and infrastructure globally.

### AstraZeneca

AstraZeneca is focused on delivering novel medicines, using AI to rapidly identify new molecules for targeted therapies. This includes working closely with local collaborators such as the Medical Research Council Laboratory of Molecular Biology on technologies which increase speed and success of drug discovery. AI is also being used to improve clinical trials and enhance understanding of disease biology. For example, AstraZeneca's novel AI tool, MILTON, developed at their Centre for Genomics Research in Cambridge, combines genomic and clinical data to identify disease patterns and risk factors, signaling early disease for over 1,000 conditions before diagnosis.

### GSK

AI is the key to interpreting genetic datasets, understanding the 'language' of the cell, and developing medicines with a higher probability of success. GSK is using AI to discover and develop medicines and vaccines.

### Darktrace

Darktrace, a global leader in AI for cybersecurity, is headquartered in Cambridge, which is also the company's main R&D hub. Its R&D centre has conducted research establishing new thresholds in cybersecurity, with technology innovations backed by over 200 patents and pending applications.

### Microsoft Research Cambridge

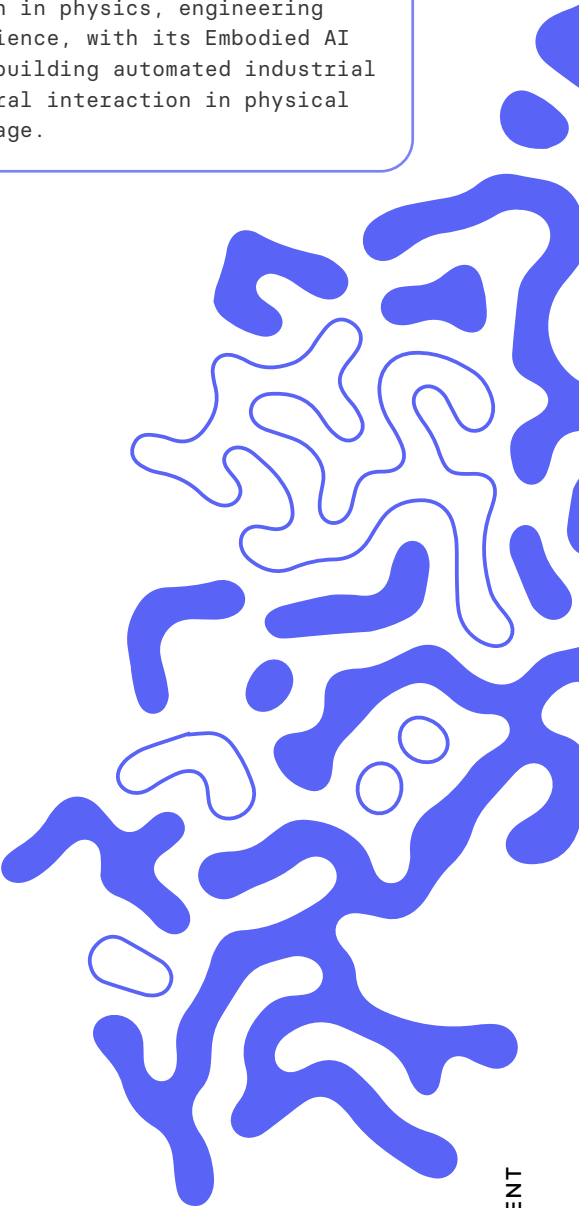
Microsoft Research Cambridge is advancing foundational AI models and their application, leveraging breakthroughs in large-scale AI to transform its products.

### Samsung AI Center Cambridge

Samsung AI Center Cambridge excels in algorithmic efficiency across Future Interaction, Embedded AI, and Machine Learning & Data Intelligence, regularly publishing in top scientific venues and winning best paper prizes.

### Toshiba's Cambridge Research Laboratory

Toshiba's Cambridge Research Laboratory creates core technology through basic and applied research in physics, engineering and computer science, with its Embodied AI research group building automated industrial AI through natural interaction in physical space and language.



## [V.] Infrastructure

### Civic

#### Cambridge Ahead

Cambridge Ahead is leading work on long-term infrastructure needs and land use planning to support the sustainable growth of the AI sector in the region.

#### Cambridgeshire & Peterborough Combined Authority

Cambridgeshire & Peterborough Combined Authority is mapping the region's AI capabilities to create a real-time understanding of the local AI ecosystem.

### Compute

#### The University of Cambridge

The University of Cambridge is home to one of the UK's most powerful supercomputers, Dawn, developed through a partnership between the University of Cambridge, the UK Government, UKRI, Dell, Intel, and StackHPC.

### Data

#### East of England Sub-National Secure Data Environment

East of England Sub-National Secure Data Environment, led by Cambridge University Hospitals in partnership with CUHP and Health Innovation East, provides cloud-based ISO accredited AI-ready platform suitable for developing or testing AI models on routinely collected NHS data.

#### Minderoo Centre for Technology & Democracy

Minderoo Centre for Technology & Democracy is partnering with the International Committee of the Red Cross to deliver a bold new data protection strategy for community responsiveness that is fit for the AI-era.

## [VI.] Partnerships

#### ai@cam

ai@cam collaborates with organisations across the UK to share expertise and drive adoption of AI in domains of national importance, such as the use of AI in public services and training for researchers in AI for science.

#### Anglia Ruskin University

Anglia Ruskin University works with industry leaders like Arm to develop education programs that address skill gaps and to advance system-on-a-chip and edge AI technologies.

#### Cambridge University Health Partners

Cambridge University Health Partners leads the life sciences strategy in the region and is delivering a combined data and AI strategy as part of their ambition.

#### Cambridgeshire & Peterborough Combined Authority

Cambridgeshire & Peterborough Strategic Mayoral Combined Authority is driving forward economic growth, inward investment, skills, housing, transport and infrastructure through its' developing Local Growth Plan.

#### Cambridge x Manchester

Cambridge x Manchester is forging a collaborative AI ecosystem where startups can scale locally for global impact, connecting academic expertise with industrial application to maximise economic and social returns for the UK.

#### The Centre for Mobile, Wearable Systems and Augmented Intelligence

The Centre for Mobile, Wearable Systems and Augmented Intelligence focuses on developing multimodal artificial intelligence around

wearable devices and signals. The Centre is founded through a donation of Nokia Bell Labs and is hosted by the Department of Computer Science and Technology.

#### Digital Mental Health Group

The Digital Mental Health Group at Cambridge University is delivering UK Government-commissioned research evaluating the impact of digital technologies, including AI chat applications, on young people, demonstrating active partnership with policymakers to address pressing societal concerns.

#### Google DeepMind

Google DeepMind is partnering with the Cambridge Trust to create the DeepMind Cambridge Scholarships that support under-represented students pursuing postgraduate studies in Advanced Computer Science.

#### Innovate Cambridge

Innovate Cambridge leading an inclusive, forward looking and ambitious innovation roadmap for Cambridge.

#### Oxford-Cambridge Supercluster Board

Oxford-Cambridge Supercluster Board fosters knowledge exchange and collaborative projects that spread AI capabilities across the UK.

#### UKRI AI CDT in Decision Making for Complex Systems

This collaboration between the Universities of Cambridge and Manchester aims to enable students to develop new fundamental AI capabilities in the context of a diversity of complex systems.

#### University of Cambridge and UKAEA

University of Cambridge's and UKAEA's collaboration is developing plans for the UK's first growth zone in Culham, Oxford.

[VII.]

# Annex



# Cambridge AI startups

Here are examples of the diverse startups operating from the Cambridge region. Text is adapted from their websites.

## → Alchera Technologies

Data-driven insights & monitoring, unlocking decision making for local, regional and national mobility networks.

## → BeyondMath

BeyondMath develops artificial intelligence technology to simulate and optimize physical world designs, replacing traditional prototyping and simulation methods.

## → Benevolent AI

Benevolent uses AI to empower scientists to uncover new insights from data, helping to accelerate innovation and increase the probability of discovering a successful drug.

## → Blackdot Solutions

Blackdot Solutions provides an open source intelligence (OSINT) investigations platform, Videris, that helps organizations reduce risk by empowering teams to leverage OSINT efficiently, accurately, and securely.

## → BugBiome

BugBiome harness the natural relationship between crops, microbes, and pests to discover microbes with natural crop protection abilities—creating protective barriers against pests while safeguarding beneficial insects.

## → C2-Ai

Copeland Clinical Ai aims to be the global gold standard for improving quality, reducing harm and variation, and delivering hospital cost savings.

## → Cam AI

Cam AI is an authentic and transparent chatbot trained on proven therapeutic techniques. Using conversation driven development, our chatbot will automatically predict and personalise what professional therapists would say in similar, highly nuanced situations in order to respond ethically and reliably to users.

## → CardiaTec Biosciences

CardiaTec Biosciences develops novel cardiovascular therapeutics by leveraging large-scale multiomics data and computational modelling to understand the complex biology of cardiovascular diseases.

## → Concr

Concr enables personalisation of cancer treatment by providing advanced analytics tools for precise

and accurate response predictions, in pre-clinical models and in patients

## → Conundrum

Conundrum develops an AI-powered platform for adaptive, closed-loop process control in industrial manufacturing, providing tools for machine learning model creation, data visualization, and real-time optimization.

## → CuspAI

Cusp.ai develops artificial intelligence solutions to advance the discovery and development of new materials.

## → Cydar Medical

Cydar Medical provides software and analytics solutions for minimally invasive image-guided surgery, enabling clinicians to plan, guide, and analyze surgical procedures with precision and accuracy.

## → Dataswyft

Dataswyft is a distributed data network and technology group. Dataswyft creates portable information that can be managed on a mobile device.

## → DIOSynVax

DIOSynVax customises vaccine antigen design to maximise the protection that vaccines can provide against existing and future viruses.

## → Dogtooth Technologies

Dogtooth Technologies develops and manufactures robotic harvesting solutions for farmers, including strawberry harvesting robots and yield forecasting systems.

## → electronRx

electronRx develops digital biomarkers and technology to measure and improve lung function for people with breathing disorders.

## → ExpressionEdits

ExpressionEdits offers a computational platform that perfects genetic grammar. With advanced AI and deep biological insights, it can predict performance and redesign transgenes.

## → Fetch.ai

Fetch.ai is a decentralized platform that uses AI and blockchain technology to automate tasks. It's designed to create autonomous agents that can make decisions and perform tasks on behalf of

users, organizations, or devices.

## → Featurespace

Featurespace provides fraud and financial crime management solutions using its adaptive behavioral analytics technology to help financial institutions prevent fraud and money laundering.

## → FinCrime Dynamics

Fin Crime Dynamics helps clients build better defences against financial crime by translating financial crime intelligence into data resources with our simulation and synthetic data engine Synthetizor.

## → Healx

Healx develops and discovers new treatments for rare diseases using artificial intelligence and machine learning to identify and enhance existing compounds.

## → Humanloop

Humanloop is the LLM evals platform for enterprises. Humanloop gives you the tools that top teams use to ship and scale AI with confidence.

## → ieso

ieso provides online cognitive behavioural therapy (CBT) services to NHS patients in the UK, offering one-to-one therapist-delivered talking therapies for a range of mental health conditions.

## → Ignota Labs

Ignota Labs rescues promising but failing drugs, bringing new life to abandoned projects and new hope to patients, using a proprietary AI model (SAFEPath) that applies deep learning to our combined bioinformatics and cheminformatics datasets to solve drug safety issues.

## → Infersens

Infersens is a a deep learning sensor technology company. It's first product is a non-invasive flow and temperature sensor to monitor Legionella risk.

## → Intellegens

Intellegens is a company that specializes in applied machine learning for materials, chemicals, and manufacturing industries. Their Alchemite technology can optimize R&D projects with up to 90% fewer experiments and works with sparse, noisy data where other machine learning approaches fail.

## → IntelliSense io

IntelliSense.io provides digital transformation solutions for the mining industry, offering process optimization applications and a decision intelligence platform that uses scientific AI to increase efficiency and reduce waste.

## → Linguamatics

Linguamatics provides AI-enabled language and translation solutions for the healthcare and life sciences industries.

## → Lucida Medical

Lucida Medical develops software to help clinicians find cancer, using AI and MRI.

## → Lumilinks

Lumilinks specialise in transforming AI strategies into actionable insights.

## → Luminance

Luminance provides an end-to-end artificial intelligence platform for contract processing, review, and analysis, empowering lawyers and businesses to automate and streamline their contract management workflows.

## → Mebomine

Mebomine's unique data analytics methodology combines domain-specific natural language processing, machine learning and statistical analysis to find, interpret and link clinical insights from online patient communities about thousands of conditions, supporting a wide variety of needs.

## → MedAi

MedAi smart healthcare platform uses artificial intelligence to deliver personalised healthcare services in patient's language.

## → Monumo

Monumo is a deeptech engineering company that designs and develops optimized electric motors using artificial intelligence and multi-physics simulations.

## → Myrtle

Myrtle produce machine learning inference solutions which meet the exacting demands of tomorrow's real-time inference workloads using minimum compute capacity and minimum energy, thus advancing the vast potential of machine learning to enhance our lives without costing the planet.

## → NeuroXR

Neuro XR, bringing the world's first emotional heat-mapping technology to the market.

## → OBRIZUM

Obrizum provides a true adaptive learning platform that uses AI-powered technology to personalize learning experiences and measure learner competence and confidence.

## → Ososim

Ososim is a global learning technology company helping organisations to bridge the gap between theory and practice

## → Panakeia

Panakeia provides comprehensive 'omics' molecular analysis of patient tissues significantly faster and cheaper than other methods. We are creating AI-technology to provide biomarker information directly from H&E-stained tissue images

## → PharmEnable

PharmEnable Therapeutics is a drug discovery company leveraging AI to reimagine small molecules, focusing on creating treatments for challenging conditions like cancer and neurological diseases, with a goal of replicating the specificity of biologics in a scalable, small molecule format.

#### → Pivotal

Pivotal provides a platform for measuring and incentivizing biodiversity regeneration, linking data-driven outcomes to financial mechanisms such as sustainability-linked bonds and biodiversity credits.

#### → Qureight

Qureight accelerates drug development through AI-powered data curation, providing collaborative analysis for imaging, clinical data, and biomarkers to biopharma, contract research organizations, and hospitals.

#### → RegGenome

RegGenome provides a searchable repository of global regulatory data, offering curated packages and research tools to help organizations manage compliance and operational excellence.

#### → Risilience

Risilience provides sustainability intelligence and risk management solutions to help organizations understand and address climate and enterprise risks.

#### → RoboK

RoboK is a computer vision start-up that develops innovative, privacy-preserving, and cost-effective technology to maximise the value of industrial CCTV cameras.

#### → sAIaptic

sAIaptic offers AI Assisted Grading to deliver realtime, personalised examiner-quality feedback to free text answers.

#### → Sano Genetics

Sano Genetics provides a platform for recruitment, genetic testing, and long-term engagement in clinical research, offering services such as protocol development, DNA testing, and patient engagement to support precision medicine studies.

#### → Secondmind

Secondmind develops cloud-native software products that empower automotive engineers to solve the most complex vehicle design and development problems, and achieve sustainability with advanced, data-efficient machine learning.

#### → Shift Bioscience

Shift Bioscience develops and uses simulation-guided cell rejuvenation technology to combat diseases associated with aging.

#### → Speechmatics

Speechmatics offers enterprise-grade APIs for automated speech recognition and building

Conversational AI products.

#### → Techspert

Techspert connects businesses with expert insights in healthcare and life sciences through its AI-powered expert network, providing primary market research, due diligence, and innovation and product development services.

#### → Tenyks

Tenyks creates conversational visual search which makes videos searchable using GenAI.

#### → Theia Insights

Theia Insights builds foundational AI technologies for the global investment community, specialising in Industry Classifications and Thematic Factor Models

#### → ThoughtRiver

ThoughtRiver provides an artificial intelligence-powered platform for streamlining contract review, editing, and approval processes.

#### → Turation

Turation aims to enhance efficiency with next-gen AI in Industry 5.0, where human involvement is heightened due to customisation and shorter cycles in High-Mix Low-Volume production, from prototype aerospace components to individual-fit earphones

#### → Unlikely

Technologies for decisions that matter, through controllable, auditable, and hallucination-free AI platforms.

#### → Vector Bioscience

Vector Bioscience develops a machine-learning empowered drug delivery platform. We are dedicated to transforming oncology treatments with our cargo-agnostic technology.

# Cambridge is home to a *vibrant startup ecosystem.*



# AI Value Chain

$$I = (B \rightarrow A \rightarrow P \rightarrow C \rightarrow D)$$

I = INNOVATION/IMPACT

P = PROTOTYPING

B = BASIC RESEARCH

C = COMMERCIALISATION

A = APPLIED RESEARCH

D = DEPLOYMENT

## Research & Innovation

Fundamental research, theoretical advances, and interdisciplinary exploration

### Universities & Research Centres:

- Anglia Ruskin University
- University of Cambridge

## Technology Development

Applied research, prototyping, and technical validation

### R&D Organisations & Innovation Centres:

- University of Cambridge
- Anglia Ruskin University
- Cambridge Consultants
- Cambridge University Health Partners
- **Private sector innovation labs (see list opposite)**

## Market Applications

Commercialisation, scaling, and business model development

### Investment, Incubation, & Acceleration:

- Ahren
- Amadeus Capital
- The Bradfield Centre
- Cambridge Angels
- Cambridge Innovation Capital
- Cambridge Future Tech
- Deeptech Labs
- IQ Capital
- Marshall Futureworx
- University of Cambridge
- Anglia Ruskin University

## Implementation & Adoption

Practical application and integration into real-world contexts

### Public Sector Implementation:

- Cambridge City Council
- Cambridgeshire and Peterborough Combined Authority
- Greater Cambridge Partnership
- South Cambridgeshire District Council

### Healthcare Implementation:

- Cambridge University Health Partners
- Cambridge University Hospitals
- East of England Sub-National Secure Data Environment
- Royal Papworth Hospital

### Private Sector Implementation:

- Altos Institute of Computation
- Amazon's Cambridge Development Centre
- Apple
- Arm
- AVEVA Group plc
- AstraZeneca
- Darktrace
- GSK
- Microsoft Research Cambridge
- Samsung AI Centre
- Toshiba's Cambridge Research Laboratory

### Education & Skills Development:

- Cambridge University Press and Assessment

### Education & Skills Development (cont):

- Form the Future CIC
- Raspberry Pi Foundation
- Cambridge City Council's Region of Learning
- The Bradfield Centre & TechEducators partnership
- University of Cambridge
- Anglia Ruskin University

## Feedback Loops

Implementation insights informing new research directions

### Cross-Ecosystem Connectors:

- ai@cam
- Cambridge x Manchester Innovation Bridge
- Cambridge Ahead
- Innovate Cambridge
- Cambridge University Health Partner
- Cambridgeshire and Peterborough Combined Authority



# Cambridge Can: Bring AI to life

