

Cambridge Biomedical Campus Vision 2050:

Creating a life sciences
quarter for Cambridge



Foreword

This document sets out our ambitions for Cambridge Biomedical Campus over the next three decades. Building on the successes of recent years, it shows how we will further develop the campus to be the best place in the world to work in health and life sciences. More than this, we aim to make it a vibrant urban community in its own right.

This is the right time to renew our ambitions. Today we look again to the future as both a centre of excellence for healthcare provision in Cambridge and global innovation hub, leading and shaping the new technologies and disruptive techniques that define tomorrow. The way we work and live was changing rapidly before the first COVID-19 infection: the pandemic has accelerated these changes dramatically.

Cambridge Biomedical Campus is a collection of outstanding institutions and businesses, distinctive for operating across the spectrum from translation of research into clinical practice and beyond; but to continue to be globally successful in the 21st century we need even more seamless collaboration and better offerings to ensure that people who work here thrive. Patients here will access the best healthcare in the world, as organisations here confront and overcome some of our most persistent challenges.

Twenty-one years ago, campus occupiers published the 2020 Vision, a plan to achieve excellence in healthcare, research and industry. Since then, the campus has expanded by 70 acres, we have built the new Royal

Papworth Hospital, two multinational corporate headquarters and the Cancer Research UK Cambridge Institute. Our scientific and healthcare achievements have been driven by a highly effective and lasting partnership between education, research, and practice. It is a model which has enabled organisations at CBC to lead the response to COVID-19 across healthcare disciplines.

We have created a world class campus; over the coming decades we will make this a place which delivers the excellence and scale of opportunity deserving of the world's brightest minds in the medical and biological sciences. In doing so we will make this one of the best places to live and work in the world, empowering economic growth with access to high quality and sustainable housing, green space, and active and clean connectivity at the heart of new quarter for the city.

Life sciences have grown at an unprecedented rate over the last two decades around the world. Our last Vision has put us in a position to lead the next phase of growth: this *Vision 2050* sets out our plan to do so.



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Executive summary

By 2050 Cambridge Biomedical Campus will be globally leading and locally rooted, where research, commercialisation, and real-world application of life sciences come together.



**People
centered**



**Defined by
co-location**



**A vibrant
community**



**The smartest
place in
Europe**



**Globally
connected**



Cambridge Biomedical Campus (CBC) is one of the world's leading centres of life sciences research, medical innovation, and healthcare provision. We are home to state-of-the-art research hospitals, the headquarters of international life sciences businesses, and research and higher education institutions.

Over the next three decades, we will transform our campus so that we can continue to lead the world in life sciences as a thriving innovation district. Our Vision is to create a place that innovates in every area of the life sciences and which works to improve all aspects of human health. To do this, CBC must enable the interaction of organisations which are based here, becoming a place where life-saving treatments are not only provided but also discovered.

CBC will represent the modern expression of Cambridge's character: inquiring, collaborating, welcoming, and aspirational. We will be both the primary engine for life sciences growth and innovation in the region and a centre of excellence for healthcare, creating life-saving innovations at the heart of a vibrant local community. Realising our Vision will not only improve our site but also empower innovation throughout Cambridge.

New and growing businesses will continue to come to Cambridge for its established innovative strengths. Implementing our Vision of a strengthened, locally-rooted,

Through our Vision, we will develop:

- **A mature campus**, with a wide range of complementary spaces for business, research and healthcare institutions
- **A connected place**, with enhanced physical and digital links to other local and international centres of research and clinical excellence
- **A 20-minute neighbourhood**, integrated into its community, where people can enjoy a healthy environment and a high quality of life
- **A fully functioning urban extension to Cambridge**, with a mix of business, residential and supportive infrastructure in a sustainable development
- **An engine of economic growth**, creating jobs and improving productivity locally and throughout the UK

and innovative district will require the campus to provide for local needs and address the global forces shaping how we work and live. Our challenge is to harness this growth for the benefit of the city, its communities, and the whole country.

We will do so through:

- Active and open stewardship
- Integration and inclusion
- Place focus
- Nurturing diversity



CBC Vision 2050

Who we are

Cambridge Biomedical Campus is one of the world's leading centres of life sciences research, medical innovation, and healthcare provision. We are home to leading research hospitals, the headquarters of international life sciences businesses and higher education institutions. CBC is a globally important life sciences engine, and we have come together to demonstrate our commitment to Cambridge through a new Vision for our campus and our role in the city and beyond.

We are now renewing and expanding our partnership for the next three decades, working together to shape the future of the campus so that we can continue to lead the world in life sciences. Together, campus institutions, occupiers and investors will transform CBC into an integrated quarter of the city, increasing innovation and commercial opportunities while creating one of the world's most attractive and welcoming places to live in, visit, research, and work.

Our campus must continue to be greater than the sum of its parts, so we have brought together all our talents and expertise to set a new Vision for the next 30 years.



CBC Vision 2050

Cambridge Biomedical Campus will be globally leading and locally rooted, the preferred destination for life sciences, where research, commercialisation and real-world application come together to create life-saving innovation in a vibrant local community.

The campus will be:

- **Defined by co-location** – Where research, business and clinical excellence come together, benefiting uniquely from proximity, to improve lives
- **A vibrant community** – An inclusive, sustainable, genuinely affordable neighbourhood that is the best of Cambridge
- **The smartest place in Europe** – Unrivalled in its capacity to accelerate the cycle of discovery, scaling, and commercialisation, supported by a smart environment that drives knowledge transfer
- **People centred** – Sustainable design at a human scale to promote innovation, talent, collaboration, health and wellbeing
- **Globally connected** – Dynamic relationships with and connections to innovative places throughout Cambridge, the UK, Europe and the world

Global trends

The life sciences economy is growing at a fast pace. Global R&D spending on life sciences hit a record \$179 billion in 2018, a 23% rise on four years earlier: by 2024, it is forecast to reach \$213 billion. Overcoming new and persistent diseases will be one of the main challenges of this century, galvanising ever-increasing investment in the health economy.

The COVID-19 pandemic has emphasised the existential threat to lives and livelihoods posed by modern diseases. Global economic and health trends are likely to pose similar threats:



The emergence of highly resistant strains of virus and novel forms of disease.

Advances that have supported human health for generations no longer offer the defence they once did, with major risks from novel viruses and antibiotic resistance.



The forces of climate change, urbanisation and globalisation.

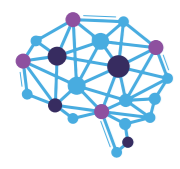
Accelerating the rate at which new diseases come into contact with humans, but also the speed with which they can spread through populations.



Socioeconomic inequality and ageing populations.

Pressure on public services and funding is increasing. By 2050, one in six people in the world will be over age 65 (16%), up from one in 11 in 2019 (9%).

At the same time, new technologies and processes are already having a transformative effect on the way we treat and manage disease:



Digitalisation, data science and artificial intelligence.

The Artificial Intelligence market in life sciences alone is expected to increase from \$198.3 million in 2018 to \$3.88 billion in 2025.



Demand for personalised and data driven medicine.

The annual data output in healthcare is expected to rise by 760% from 2018 to 2025.



Flexible and remote working are becoming the norm.

Going forward, 3-4 times as many people are likely to be working from home as before the pandemic

These global trends demand action. Cambridge must lead the way in addressing the challenges and making the most of opportunities – or risk being passed by.

Life sciences research must be **more innovative and adaptable than ever before**, with effective and efficient pathways from lab and mass testing to commercialisation and distribution.

Life sciences districts and research centres must create **the best environment for innovation**, while also ensuring that they offer a high quality of life that can attract and retain talent and support staff.

Our life sciences ecosystem is adaptable, able to anticipate life science trends and to shape what is to come. The HM Government Life Sciences Vision recognises that investing in clinical research infrastructure and centres of excellence is a precondition of continued success in the UK. The places with the institutions, expertise, and innovative environment to lead the development of new medicines, treatments and healthcare technologies will be at the forefront of overcoming our health challenges.

Value of life sciences in Cambridge

Life sciences is the fastest growing sector in Cambridge, already one of the world's most advanced hubs of biomedical activity. Further development of Cambridge Biomedical Campus is a unique opportunity to not only support Cambridge's productivity and economic growth, but also to grow UK plc and the global life sciences sector. For companies and researchers that work here, there's nowhere else in the UK.

Life Sciences: A Global Opportunity



Global healthcare spending rising **4% a year**



\$179 billion in global R&D spending



Employment growth of **10%** in UK Life Sciences since 2010

Local Strength in Life Sciences

£2.3 billion in Gross Value Added

20% of the Cambridge economy

21% turnover growth and 11% employment growth



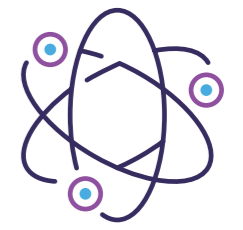
12,400 private employees, 5% of UK total



330 businesses



21,200 public sector jobs

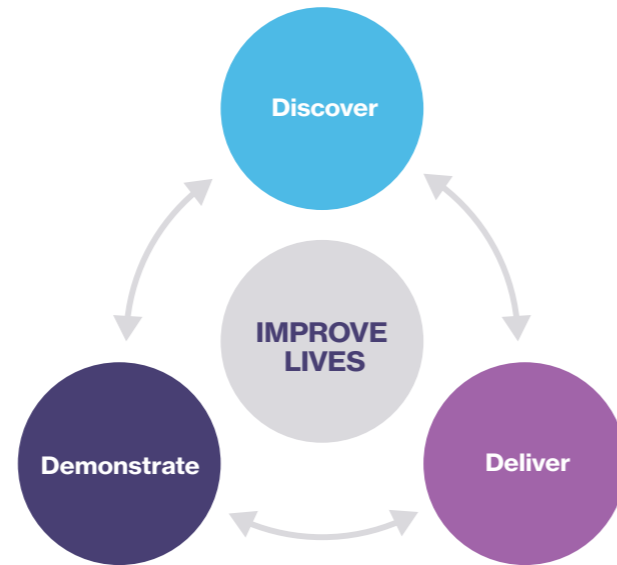


High productivity of **£187,000** per head

Cambridge Vision for life sciences

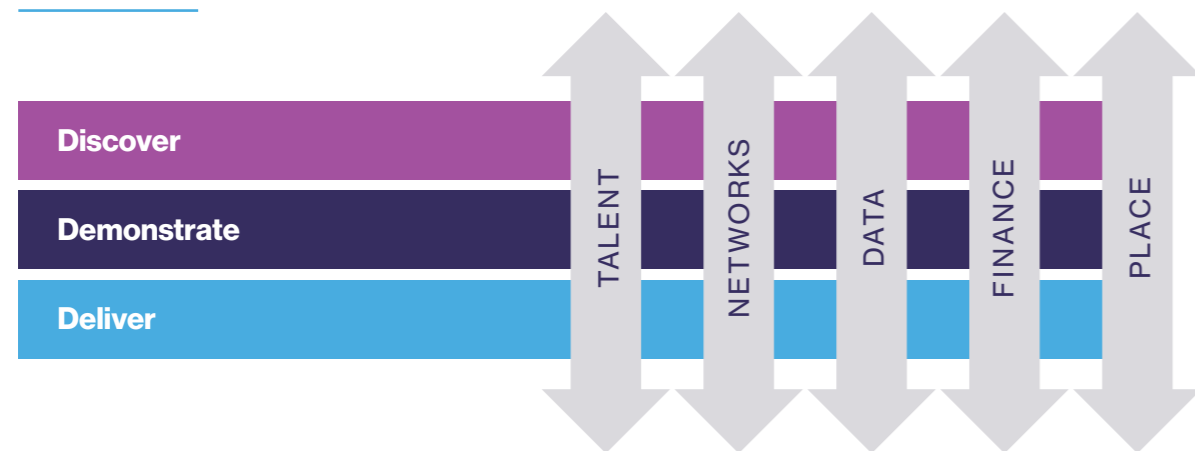
Our mission: an accelerated cycle of discovery to delivery improving lives locally and globally

- **Improving lives** by increasing global health and wealth, with our local population at the centre
- **Discovering** breakthrough insights into the underlying mechanisms of disease, novel treatments and improved systems for care delivery
- **Demonstrating** the value of discoveries from Cambridge and beyond in real world populations and health systems using integrated health, social and economic data
- **Delivering** health, social and economic impact by scaling breakthrough discoveries at pace



Striving to be globally distinctive: to continue to be a destination of choice for life sciences talent and investment we need to continue to invest in the five pillars that underpin our vision: Talent, Networks, Data, Finance and Place

The Five Pillars



Role of clusters in life sciences

Cambridge is one of the world's most innovative economies. Since the 1960s, entrepreneurs and academics in the city have pioneered an open and collaborative approach to business which has led to the rapid expansion of the knowledge economy. Over the years, Cambridge has developed a remarkably successful innovation ecosystem, supporting entrepreneurship and cutting-edge advances in a broad set of high-tech sectors.

Early business ventures set up by engineers to apply their expertise to industrial problems have in time become multi-billion pound businesses, and since the establishment of Cambridge Science Park by Trinity College in 1970 a network of specialised innovation campuses has spread across the city. These highly-developed specialist clusters are concentrations of large and small businesses, university departments, public institutions and investors.

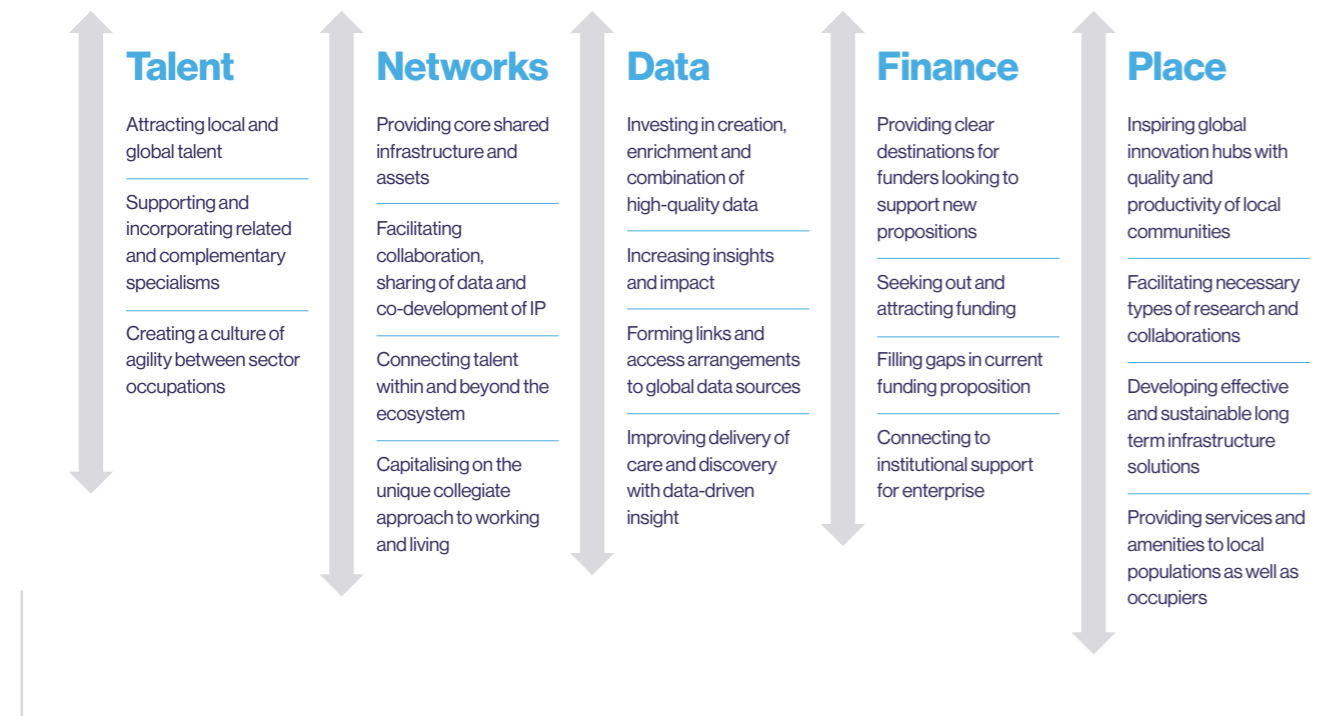
The power of this collaboration has become ever more apparent during the COVID-19 pandemic. By capitalising on the world-class biomedical research facilities and collaborative opportunities provided at CBC, researchers here have led new initiatives in testing, ventilator sequencing, hospital and healthcare system management, and patient data analysis.

Collaboration between businesses and healthcare institutions, facilitated by proximity in innovative clusters, facilitates the discovery and application of new processes and technologies. Royal Papworth Hospital, for instance, has led fruitful collaborations with Philips Electronics UK, redesigning catheter labs to deliver specialised care with the heightened infection prevention precautions.

Over 30 science and technology parks sit within a radius of approximately 10 miles of Cambridge, with more in Ely, Newmarket, Huntingdon, Godmanchester, and Royston. Many have a particular specialism within life sciences, which combined create a whole greater than the sum of their parts.

Science parks in Cambridge play a distinct role across the cycle of discovery within life sciences – only CBC has the capacity and institutional mix to contribute to each. CBC is the only location which provides life sciences businesses with the close proximity to clinical infrastructure and expertise needed to support growth. But the network of parks is fundamental to realising the *Cambridge Vision for Life Sciences* and supporting Cambridge's knowledge engine. These innovative hotspots have a significant role in each of the pillars of the Vision for life sciences.

Cambridge Life Sciences



Clusters in Cambridge

Cambridge's innovation ecosystem is distinctive for its concentration of specialist campuses. Today, Cambridge is Europe's largest biotechnology cluster, comprised of over 30 science and technology parks.

The Cambridge ecosystem benefits from the interface between two main sectors of technology and life sciences. Reflecting this, the parks and campuses that make up this environment vary in composition and specialisation. Some are composed largely of private sector firms (for example, the Cambridge Science Park). Others include or are based around one or more institutes (such as the Babraham Research Campus and Wellcome Genome Campus), while CBC has benefited from significant public sector investment in NHS and Higher Education Institution (HEI) infrastructure as well as medical charity funding. Cambridge University Health Partners (CUHP) supports coordination between the different life sciences hubs, operating on behalf of three NHS trusts and the University.

The synergies between these different parks and campuses that together make up the Cambridge cluster are not only mutually reinforcing, but act to stimulate innovation, enterprise and growth. But while science parks used to be sufficient to enable productivity and growth, tomorrow's innovation districts need to express something more.

Innovation districts demonstrate a new relationship between economic activity, place-making, and networking. Open innovation rewards collaboration, and innovative organisations and workers require the proximity that allows the quick and seamless exchange of knowledge, ideas, intellectual property, and projects. Science parks co-locate firms, but true innovation districts demonstrate a mixture of organisations co-located in strong environments built to support collaborative activity while also providing good places to live and work.

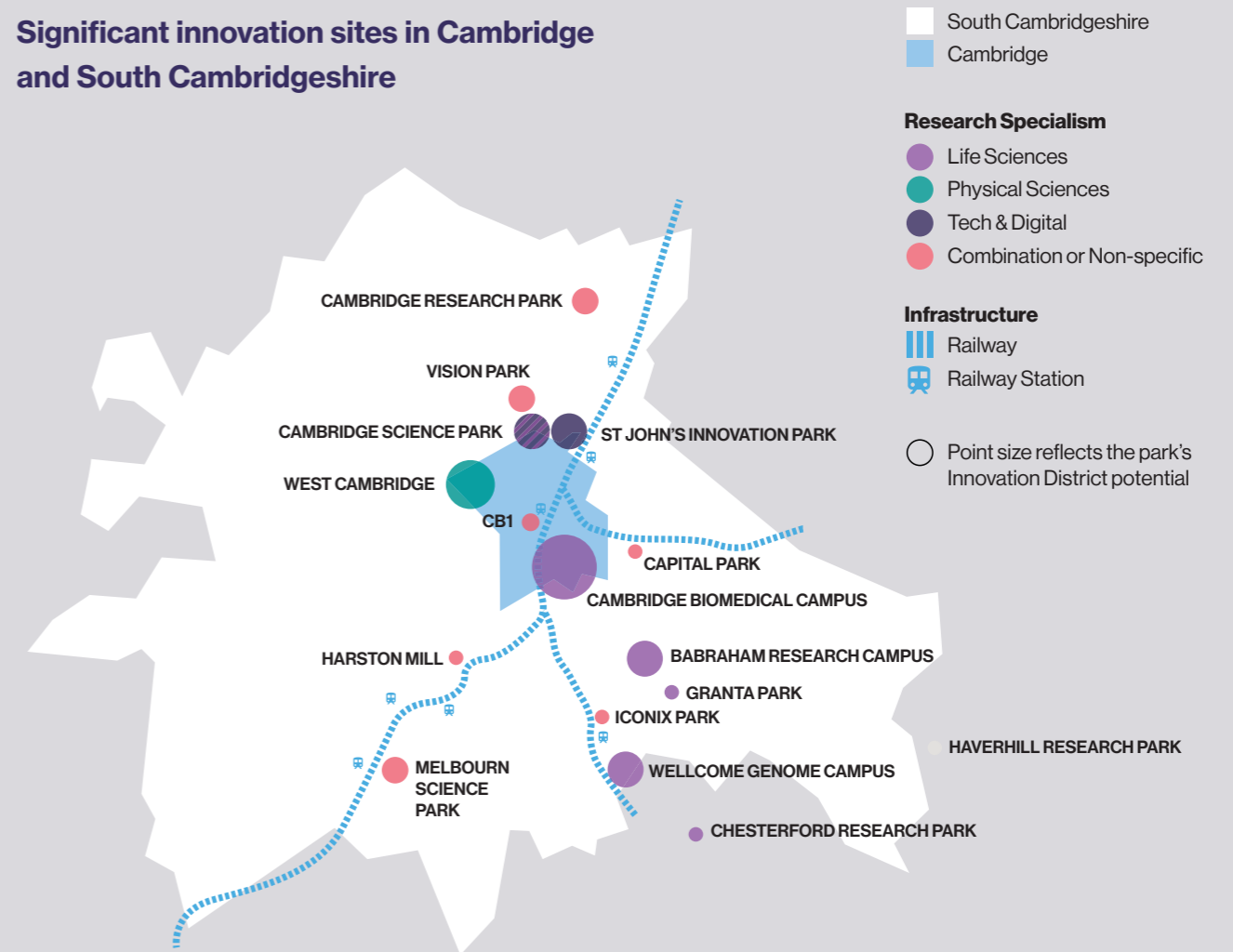
This remains true in a post COVID-19 world, where flexible and remote working may become increasingly prevalent. Science and technology sectors, and



Image credits: Abcam



Significant innovation sites in Cambridge and South Cambridgeshire



knowledge-intensive sectors which rely on innovation to maintain growth, will always require in-person tacit knowledge exchange, facilitated by proximity. Firms, innovation districts, and ecosystems will continue to require extensive collaboration space to ensure innovation and productivity continue.

Today, there are two campuses in Cambridge with significant potential to act as innovation districts: Cambridge Biomedical Campus and West Cambridge. CBC already has the institutional strength to act as such, and only needs enhancement of amenity and collaboration space, plus opportunities for more firms to co-locate. West Cambridge benefits from the University of Cambridge's concentration on the site, bringing innovation expertise to its strategic development.

Connections between these sites, both physical and through the new University Enterprise Zone, amplify their suitability as complementary innovation districts powering Cambridge's innovation ecosystem.

These two sites have something else in common. Their locations mean that they could function as true urban extensions to Cambridge. They can become truly sustainable, future-proofed, and inclusive places; fully functional and accessible sites for people to work and live; and connect Cambridge's wider innovation ecosystem to drive growth. **Building on the principles of sustainable growth, CBC and West Cambridge are the only two sites with the capacity, scale and strategic potential to create new innovation-focused quarters of the city.**

Cambridge context

Cambridge is among the foremost life sciences clusters in the world. Groundbreaking advances in the treatment of human health, both in research and application, have happened here; notably Watson and Crick’s discovery of how DNA carries genetic information, the “secret of life”.

Cambridge has been at the centre of the rapid growth of life sciences around the world. Over the last six years, employment in the sector has grown by an average of 11% each year, and turnover has grown by 21%, double that of any other sector. There has been growth in the number of businesses, and venture capital investment has increased tenfold since 2014. Life sciences now comprise nearly a fifth of economic output in Cambridge, and over 30,000 people work in cutting-edge biological, pharmaceutical, and medical roles across the private and public sector. Cambridge today is at the forefront of life sciences research in the world, leading R&D in genome sequencing, surgical robotics, and therapeutics.

Cambridge has experienced a half century of feverish economic activity and population growth. The city’s rapid economic expansion has been built on science and technology. Since the 1960s, a model of success has developed in Cambridge which combines the academic excellence of the University with entrepreneurship and the strength of local public institutions, resulting in the success of a wide variety of advanced technology businesses. Today, Cambridge is home to more than 5,000 knowledge-intensive firms,

employing nearly 70,000 people and generating more than £18 billion in revenue.

For life sciences in Cambridge, the heart of this excellence is the research community, the University of Cambridge, the MRC Laboratory of Molecular Biology (LMB), and Cancer Research UK Cambridge Institute; a nexus of world leading hospitals; and the links between foundational academic research and private sector commercialisation. The willingness of experts in these institutions to use research to shape practice, and vice versa, and the networks of private investors prepared to back risky new ventures has led to Cambridge’s emergence as a hub of the global life sciences industry.

This activity culminated in the 2013 decision by AstraZeneca to create a global R&D hub and relocate their corporate HQ to Cambridge. The international biopharmaceuticals giant joins a host of homegrown businesses across life sciences specialisms which have developed from start-up ventures to multinational giants, including Abcam, a global life sciences company at the forefront of life sciences research with products and tools

¹ Cambridge Cluster Insights, Cambridge Ahead, 2019. These data current for the year 2017-18.



used by scientists worldwide, and Acambis, a leading biotechnology company targeting infectious diseases with novel vaccines.

To house these businesses, from university spinout ventures to the likes of AstraZeneca and the shades in between, Cambridge’s network of science parks and campuses has expanded since the establishment of Cambridge Science Park in 1970. There are now more than 30 science parks and hubs within 10 miles of the city centre, each providing the unique mix of space, support, and connections these businesses need to innovate.

As the Cambridge technology and knowledge economy has grown, so too has the city’s population. Since 1951, Cambridge’s population has increased by over 50%. Today, Cambridge is an international city, a centre of scholarly and scientific excellence for a plethora of disciplines and fields. It is also a city straining at its borders. The science parks are full and vacant units are in high demand, with businesses from around the

world anxious to tap into the talent that Cambridge cultivates, while housing demand continues to outstrip supply. Cambridgeshire needs more infrastructure to connect new development to the heart of the city. The 2018 Cambridge and Peterborough Independent Economic Review underlined the demands on space in what remains a small, contained city, and the need for attractive and affordable housing for the people this growing technology hub attracts.

Local innovation hubs must also connect with regional life sciences activity and innovation systems. A new Life Science Innovation Network will establish new links between organisations, increasing collaboration across the region and through this the opportunity for transformational discoveries in life sciences. Cambridge’s connectivity to London, an important link in the Golden Triangle, is an important conduit for knowledge exchange and access to talent. Meanwhile, the Oxford-Cambridge Arc prospectus sets out a strategy to build on the world-leading capability of the life sciences ecosystems around Oxford and Cambridge.

CBC context

In 1999, Addenbrooke's NHS Trust¹, the University of Cambridge and the Medical Research Council first mooted the idea for the wider development of the Hills Road site in their 2020 Vision. With two hospitals, the University of Cambridge School of Clinical Medicine, the LMB and Cancer Research Clinics, the site had become home to a major concentration of biomedical activity and patient care in Cambridge. Cambridge's population was growing, and to continue to provide high quality healthcare and medical research the site would need to expand.

The partners set out to build on the site's successes to establish new research and business facilities on what would become Cambridge Biomedical Campus. The 2020 Vision emphasised the site's potential to become an international centre for patient care, biomedical research, and healthcare education, and expressed the ambition to establish a network between education, research, and business, a model which Cambridge had shown to be successful time and time again.

Since the 2020 Vision, CBC has grown at a fast pace. After a successful planning application, land west of the existing site was released from the Green Belt in the 2006 Local Plan and in 2009 a new masterplan for these 70 acres of expansion land was granted outline planning permission. In 2007, Cancer Research UK opened its Cambridge Research Institute, followed by the Addenbrooke's Treatment Centre the Institute of Metabolic Science in 2008. The new Medical Research Council Laboratory of Molecular Biology building and an extension to the Rosie Hospital were officially opened in 2013.

In 2015 the Royal Papworth began building its new hospital, which was opened four years later. The remaining allocation for biomedical R&D space was largely taken up by one of AstraZeneca's global R&D hubs and the corporate HQ following its decision to consolidate R&D in Cambridge, exiting sites in London and the North West, investing over £330m and transferring thousands of jobs.

AstraZeneca and the LMB have demonstrated how to develop new, energy-intensive life sciences facilities sustainably and to high standards. Both AstraZeneca's HQ and the LMB use ground source heat pumps for heating and cooling, some of the largest installations in Europe. The LMB has a 75 year design life, with a floor of plant to every floor of lab space, allowing constant modification of the building according to the needs of the scientists without

having to rebuild. Both organisations use smart energy control systems to recycle heat and reduce demand across the labs. These offer best practice examples, and expertise, for future life sciences development at CBC.

In the past 20 years CBC has fulfilled the 2020 Vision by providing modern and effective healthcare to Cambridge residents, attracting investment in academic and commercial research on site, and opening up land for clinical expansion: it has not yet become a place that nurtures and inspires entrepreneurship and business excellence.

CBC's track record of growth is a result of the extensive masterplanning exercise undertaken in 2010. But the campus has become victim to its own success. The pace of growth has shown the height of demand for research and business space at the site. In 2017, outline permission was granted for a Phase 2 which was drawn down significantly ahead of schedule. Its first building, a new HQ for Abcam plc, was opened in 2019.

While many of the medical and research buildings, and larger institutional features from the 2010 masterplan have been developed, much of the aspiration in the masterplan for shared and amenity space has not been realised. CBC has added essential infrastructure to accommodate its growth, but its pace has limited the ability of the partners to curate the integrated, appealing quarter CBC needs to be to enable innovation.

Activities at CBC drive an integrated care system of 1m people locally and 5m regionally, benefiting an extended catchment to the north and east. Recent successes highlight the campus's potential. The 2014 founding of CMR Surgical to create a small, modular surgical robot in collaboration with Addenbrooke's clinicians has gone on to attain \$100m in investment and 350 patents. In 2018, Professor Sir Gregory Winter of the LMB was jointly awarded the Nobel Prize in Chemistry for use of phage display for the directed evolution of antibodies. Today, partners at CBC lead the fight against COVID-19, working across disciplines to support the pandemic response, for instance by collaborating to improve ventilator engineering.

Cambridge presents the ideal model for how to support talent and enable collaboration between different organisations. The city offers the quality of life, institutions, and finance for workers and businesses; the accessible social spaces where chance encounters can take place; and the network of mentors to guide fledgling entrepreneurs and researchers. Expanding on this system by creating a liveable, thriving quarter will enable CBC to fulfil its promise.

CBC has the foundations in place to act as a standout global centre of healthcare delivery, life sciences research and commercialisation, and must become a new, integrated and attractive quarter of Cambridge to do so.

¹Addenbrooke's NHS Trust became Cambridge University Hospitals NHS Foundation Trust in 2004.

Campus timeline

1962

Addenbrooke's Hospital moves to its new site in South Cambridge, joined by the LMB in the same year.

1976

A complete medical course is re-established in Cambridge with the opening of the University of Cambridge School of Clinical Medicine.

1983

The dedicated Rosie maternity hospital is built, ahead of schedule thanks to a donation from local philanthropist Sir David Robinson.

1999

Addenbrooke's partnership-based 2020 Vision announced, setting out long-term expansion strategy to advance healthcare, research and industry.

2002

Opening of the Hutchison / MRC Research Centre for cancer research, its mission to advance understanding and improve early detection of cancer.

2007

Opening of the Cancer Research UK Cambridge Institute, combining basic / clinical cancer research with innovative technology.

2009

Phase 1 Expansion of CBC, with 70 acres for new buildings, leading to the 2010 master planning exercise.

2009

CUHP is set up to bring together the NHS, industry and academia, ensuring patients benefit from work done at CBC and beyond.

2011

Cambridgeshire Guided Busway becomes operational, connecting CBC to the city centre, and subsequently to other local science parks.

2013

The Queen opens the new LMB, a building designed to support world-leading scientists to do medical research, translation, and collaboration.

2015

Construction on the new Royal Papworth Hospital begins; planning consent given to new AstraZeneca HQ on the CBC site.

2017

Outline planning consent obtained for Phase 2 of CBC expansion, indicating new potential for growth and development on campus.

2018

Southern section of the Green and the Gardens opened – public realm designed to provide relaxing green space and a meeting space for campus users.

2019

Opening of Abcam's new headquarters and Royal Papworth Hospital.

2021

AstraZeneca begin moving into their new corporate HQ. Our *Vision for CBC* sets the tone for coming decades of campus improvement.

Where we're going

CBC has already taken fundamentally important steps to becoming a globally significant centre for life sciences innovation. By bringing together education excellence, primary health, and global business, CBC has the foundations to set the standard for innovation in one of the world's centres of excellence in life sciences.

CBC can meet the needs of Cambridge as it continues to attract the world's best talent and companies. Increasing research and business activity on the site goes hand in hand with patient care, and CBC has always enabled patient provision to contribute to, and benefit from, the discovery of new treatments. Enhancing the research and commercial strengths of CBC will replicate and bolster the brilliant successes CBC has had in life sciences innovation. Cambridge is one of the best places to do life sciences research in the world, and all possible indicators tell us that Cambridge will continue to be a catalyst for discovery, translation, and delivery of life sciences advances.



The recent development of CBC has been indicative of the wider demands for commercial and research space across the city. Historic projections of growth have been overtaken by real demand from home-grown and fast-growing UK life sciences businesses.

The little development space today in the Cambridgeshire life sciences cluster will be quickly absorbed by the growth in demand. This includes development already slated

to move forward in coming years, like the Cambridge Movement Centre and the Translational Hub for Neuroscience and Mental Health; a new mixed use SME hub at 1000 Discovery Drive; and forthcoming hospital sites and development.

Taking a realistic view of future demand, which recognises the global role of Cambridge and the established trends that inform investment in the sector, the Cambridgeshire cluster should be preparing to welcome new businesses for the next 20 years and beyond. As the UK leaves the EU, Government and industry are focused on the opportunity to connect to new global markets, build new trade relationships and attract international talent.

If further growth is not appropriately planned for, this will create wider stresses on infrastructure and communities. Provided with excellent public transport links and committed to expansion, CBC can address these deficiencies by supporting sustainable growth within its cluster. The campus has the potential to facilitate the application of new ideas to diseases, but to achieve this it requires targeted and ambitious improvements to the environment. To realise its promise, CBC requires space to develop and infrastructure which unlocks the strengths of its existing institutions.

The most successful places combine strong, resilient visions with the flexibility to adapt to changing needs. CBC is the anchor of the Cambridgeshire life sciences cluster and must support the increase in jobs and opportunity with new homes, affordable and safe neighbourhoods, and facilities and services that are available to all who need them. The best results for new and existing residents will be achieved with a sustainable, thoughtful approach to development, which must be clearly rooted and inspired by the local area and identity, creating an inclusive neighbourhood integrated into its community.



How we get there

Vision 2050 sets out our clear goal to realise the campus's potential as one of the foremost centres of life sciences innovation in the world and as a vibrant new quarter in Cambridge.

Delivering the Vision means bringing many different components together. Thriving, successful places have a mix of cultural, academic, environmental, communal, and educational strengths that have evolved and been nurtured over many years. Cambridge is such a place: it has a special set of assets and has grown through the combination of academia with a dynamic, entrepreneurial business culture. Its internationally renowned specialisation in life sciences research and its quality of life places it in a select group of globally significant life sciences centres.

CBC is a central part of the Cambridge success story, contributing to and benefitting from the unique demand and advantages that exist here. The trends that make Cambridge so important are strong and will accelerate over the coming century. Planned or not, new and growing businesses will continue to come to Cambridge, because its qualities help firms which are based here to thrive. Our test is to harness this growth for the benefit of the city, its communities, and the whole country.



Active and open stewardship

We are responsible for a part of the city where thousands of people work, study, and visit for business and healthcare. In the years ahead many more will live here. We will continue to develop how we care for and manage the campus to reflect the changing needs of our community. Our collaboration between strategic and development partners is stronger than that of any other development site. For the first time ever, CBC's institutions and occupiers have come together in a single entity as Cambridge Biomedical Campus Limited. Together, this is a unified front for decision making and to build the wider partnership needed for the next 30 years.

An integrated, inclusive part of the city

The most successful places are knitted together, physically integrated and part of the same conversation: understanding, adapting, and accommodating in a virtuous cycle. With a deep, long lasting commitment to listening, engaging, and acting, CBC will build a new set of relationships with its neighbours, bringing all voices into the conversation about its role, how it should grow and how it can help deliver shared facilities for neighbouring communities. A local community representative will attend the CBC Ltd board and via a forum these groups can discuss all aspects of campus improvement.

Rooted in place

Businesses want to move to and stay in Cambridge, a beautiful city with a small-town feel. CBC will reflect that essential character, as a recognisable piece of Cambridge, designed with an intimacy of spaces that reflects the layout of the city's historic core. Designed at a human scale, welcoming and connected, CBC will be fundamentally a local community, where people live, work and enjoy their lives. It will support the health and wellbeing of the people of all ages who live, work and visit, improving the physical and mental health of those who spend time here.

A place to stay and to grow

World-leading science is done by talented, motivated people at all levels and in all roles. The health and wellbeing of those people and their experiences of the places where they live and work are fundamentally intertwined. Our mission is to continue to create a user-focused offer in a place that is embraced by and supportive of its local community. CBC can provide the ideal environment to attract and retain talent in a highly competitive and agile business sector.

Nurturing diversity

Diversity of skills, attitude and approach is vital for new ideas. Today, CBC is a life sciences cluster, dominated by large institutions and major companies. These are phenomenal assets in their own right. Together they form an engine for innovation and commercialisation that is unrivalled in the rest of the UK. Taking full advantage of that potential requires a wider range of occupiers of different size and maturity, who together can create a new series of interactions that will in turn drive even better outcomes and opportunities. CBC will deliver affordable complementary and flexible space for a wide range of diverse occupiers across clinical care delivery, research, education and commercialisation in life sciences.

A global locality

Cambridge is a globally important centre of excellence for life sciences, but so are its competitors. When businesses cannot locate in Cambridge, many will look to locations in other countries. As the only location that is capable of significant planned expansion and integration with leading primary care centres, CBC will build a profile equivalent to the best life sciences innovation clusters in the world.

A refresh for CBC

Building on progress

What constitutes a successful place in terms of urban design has evolved rapidly in the 21st century. The previous development models that created low density groupings of specific uses linked by car dependant connections, where working and living were done in quite disconnected places, have had their day. Underpinned by the pressing need to build in a more sustainable way, limiting the impact of development and supporting a more cohesive and inclusive environment, new exemplar urban neighbourhoods have shown a different way to develop. With clear echoes of an earlier time, successful new urban projects are designed at a human scale, focusing on the needs of all communities, and built to be walkable, integrated, safe, and welcoming.

We aim to transform the experience of CBC for people who work here, visit, and live nearby. Our Vision is for a cohesive, attractive, and green neighbourhood contributing to environmental sustainability. This should be a new part of the city, densely developed with a mixture of amenities, life sciences facilities, business spaces and accommodation

which meets the needs of those who work and visit the campus. Combined, this will establish a place here that is lively through the day and night, and which encourages people to spend time here and mix.

While facing new challenges after COVID-19, and ever impacted by the disruptive effects of new technologies and trading models, the fundamentals of this style of urban design will endure, especially given reliance of scientific activities on collaboration and networking.

CBC has developed during this transition and has the opportunity to integrate its current form into a more balanced quarter. In practice this means blending the wide boulevards and individual buildings set back from the pavements, creating places for cafés and restaurants, civic spaces, and a character that has elements of city quarter as well as commercial centre. Through a focused series of interventions, we will provide a richer experience for campus employees and visitors, while at the same time offering new opportunities for neighbours to use the campus and become a stronger part of its community.



Short term priorities

The immediate priorities fall into three main areas: operations, facilities, and enlivenment. Operational elements, including improved wayfinding and signage, and new pedestrian crossings, are already part of the CBC Campus Delivery Group's priority initiatives and will help set the tone for a new, more effectively managed, and engaging environment.

Improving facilities for employees and for visitors is hugely important. It helps to build a clearer character for a place that is presently dominated by large, self-sufficient institutions that can feel disconnected. CBC will continue to evolve and the centre of gravity of the campus may move south. The anticipated opening of Cambridge South station may also change spaces around the Green and Gardens and how pedestrians move through the public realm. Rather than wait for some future moment when the development may be more stable, an interim

Medium term opportunities

The development of Cambridge South station and the extension of the Guided Busway both bring the opportunity for much greater access for visitors and staff by sustainable means, as well as providing the wider hinterland with improved connections to and from Cambridge. This investment also creates a need to rethink how the streets in and around CBC are used, so that sustainable modes of transport are encouraged, and local congestion avoided. The main arterial routes through CBC have the space to accommodate improved walking and cycling routes, which would encourage people using the bus and rail stops to come by foot and bike, rather than by car.

uses strategy that brings forward temporary facilities on available plots will provide the breakout, food, and leisure facilities the CBC needs now, while allowing the development to still remain flexible to future needs.

Enlivenment strategies are designed to bring activity and interest to public spaces, helping to express the character and values of a neighbourhood and attract people. At CBC, available and undeveloped plots offer a wonderful opportunity to install new spaces for activities and events that would be of value to the wider communities living in Cambridge and South Cambridgeshire. Whether temporary sports facilities, space for markets or more formal retail and events facilities, the available land could become a hub for new community resources, starting to integrate CBC and its neighbourhood to become a more connected place.

There have been various CBC masterplans that have sought to create an overarching design approach for the campus. These have inevitably been subject to change as specific demands have merged and occupier priorities evolved. It is important however that a clear sense of shared vision and purpose is established across CBC, where all landowners and those controlling plots yet undeveloped operate under a single design framework. Only then can individual decisions be seen within their relevant context, and opportunities for wider improvements and better place-shaping be realised. CBC will establish a masterplan guardian framework that allows for collective agreement on development options and provides clarity and context to the local community and the town planning authority on new proposals as and when they emerge.

Implementing our vision

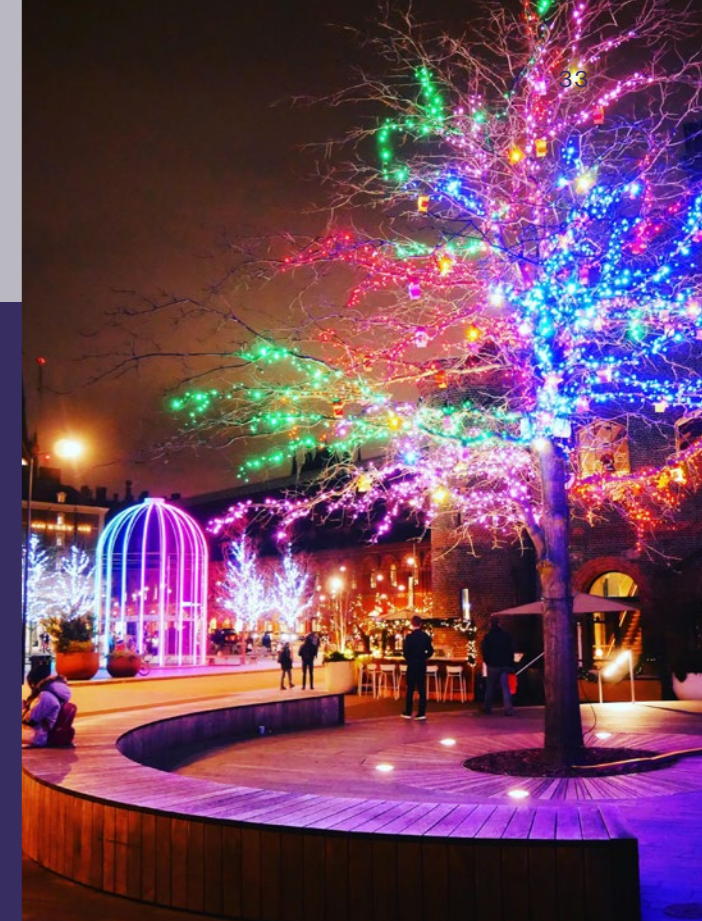
Creating a well-rounded and whole place requires a bespoke and complex process of building and curating. It requires investment and a belief in long-term value creation, with clear plans to guide each step of the way.



Short Term

Enliven and Engage

1. Identify locations for a programme of enlivenment
2. Establish a communication strategy to engage with occupiers, residents and neighbours
3. Create identity and message with clear branding



Medium Term

Welcome a Broader Community

4. Invest in enhancement of the public realm
5. Develop a brief and implementation plan for an SME hub with collaboration space
6. Identify opportunities for new amenities matched to the needs of occupiers and the community
7. Establish a community fund to support local initiatives

Longer Term

Nurture Trust and Desirability

8. Satisfy all occupiers with high quality stewardship of the estate
9. Contribute to the prosperity of Cambridge and advocate for its communities
10. Promote the life sciences open innovation network across Cambridge



Growing sustainably

The growth of life sciences in Cambridge will continue. As critical mass generates market profile, demand from businesses to be part of successful clusters will increase. Planning for this demand in a sustainable and inclusive way is the best approach to ensure that the benefits of that investment are realised while managing the pressures of growth properly.

Campus development will drive excellence across the entire ecosystem. CBC has the scale and critical mass of world-leading institutions to enhance life sciences in Cambridge, in turn powering the UK's global reputation.



New hospitals

Three NHS Trusts are active on CBC: Cambridge University Hospitals, Royal Papworth Hospital and Cambridgeshire and Peterborough NHS Foundation Trust. Soon, building will commence on a new cancer hospital and a new children's hospital on site, increasing the range of specialisms at CBC and providing further opportunities for teaching, research, and innovation. These spaces enable local care delivery as well as coordination for an integrated care system that benefits a wider catchment.



Supporting commercial uses

Co-location alone does not lead to collaboration. There must be common spaces for people to meet and to build friendships, neutral venues to relax in, and places in which to share ideas.

CBC needs new spaces that will support those working on campus, and to continue to promote the outstanding work of those based here. Many of these uses, whether coffee shops, cafés, gyms, or crèches, do not require large development plots and can be accommodated through a more intensive use of existing land. But there is also a clear need for other uses: hotels for visitors and conferencing facilities to encourage more formal engagement with new ideas and research.



Transport and accessibility

CBC already benefits from access to the Cambridge Guided Bus network and will soon be able to enjoy increased connectivity as that network is extended south and a new railway station opens on campus. The Cambridge South station will provide connections to the city centre, to London and to the East West Railway line (the Varsity Line) to Oxford. CBC is the only location with such a variety and reach of sustainable transport services. CBC has a unique opportunity to accommodate more growth, while limiting the impact such growth can have on nearby communities.



Limited space

There is high demand for the remaining plots in CBC's phase 2 expansion, with planning applications already submitted for the next building. Any remaining undeveloped land in CBC is reserved by the CUH trust for essential new investment to improve health outcomes in Cambridge and the wider region. CBC will soon be only left with the limited opportunity on the Phase 3 land, the smallest parcel approved for CBC to date. A single institution with the same footprint as AstraZeneca would completely fill that remaining development space. This is insufficient to meet existing demand, much less to accommodate further growth in the city.



Further research centres

The LMB at CBC is one of the world's most important research centres and is testament to the research strengths of CBC. The University of Cambridge School of Clinical Medicine brings a range of research institutes and academic departments to campus. The new Heart and Lung Research Institute, built from a partnership between University of Cambridge and Royal Papworth Hospital, will expand our research capacity further. As magnets for the brightest minds, such research centres are what distinguish places like CBC. To stay competitive in this fast-growing global sector, CBC must advocate and plan for more advanced research centres, or Cambridge will pass on the opportunity to make further leaps forward in life sciences to competitors overseas.



New homes, affordable homes

CBC is a major employment site, with key workers, scientists, and business people commuting every day. Many travel long distances and are squeezed out of the city by high housing costs. These pressures can have detrimental effects on the institutions, who struggle to retain key staff, and communities: pushing up house prices, creating congestion and generally impacting the quality of life of local people. However, the life sciences sector in Cambridge will continue to grow: attempting to constrain its growth by limiting opportunity will only serve to add heat to housing markets and further stress to services. As the most sustainable location for new growth, CBC can help, not only to meet business demand, but also to ensure that homes and services are provided in a way that is sustainable and affordable.



Projected need

CBC needs to build on its success to date by offering a range of complementary spaces for research as well as new businesses from across the globe. Even taking a moderate view, and recognising existing capacity in extant permissions and allocation within the wider cluster, an annual average need from R&D focused businesses would require a development pipeline of between 100,000 and 150,000 sq. ft GIA per annum. This would support those companies with a need to be within the Cambridgeshire life sciences cluster and, in particular, CBC assets. Over the next 20 years, this would equate to an additional workforce of between 14,000 and 20,000 – approximately double the staff presently working on campus.



Diversity of offer

The most effective innovation districts host a range of businesses that can share ideas and collaborate on projects in a dynamic and agile way. By broadening its offer and welcoming a wider variety of businesses in their early stages and others with complementary specialisms outside of life sciences, CBC will encourage that diversity and fulfil its role in the Cambridge innovation ecosystem.



Sustainability and biodiversity:

As scientists and healthcare professionals, CBC's occupiers are committed to the highest standards of sustainability, and recognise its significance to human health. As the campus develops, CBC intends to become an exemplar project in the UK for sustainable development: preserving and enhancing green spaces, ensuring a healthy environment, and increasing local biodiversity.

Realising our vision of a better CBC neighbourhood

We, the partners of Cambridge Biomedical Campus, present this *Vision 2050*: to become globally leading and locally rooted, the preferred destination for life sciences, where research, commercialisation and real-world application come together to create lifesaving innovation in a vibrant community.

Implementing our Vision of a strengthened, locally-rooted, and innovative campus will require CBC to look towards the future of the life sciences sector while continuing to benefit our community. Efforts to improve and develop the campus must take into account local needs, the global forces shaping the ways that we work and live, and push the boundaries of how we can promote health and wellbeing.

As part of implementing our Vision, we have been engaging the community in a discussion that helps us understand their needs and concerns. We have learned

about our need to become open to our communities, engage them regularly, and work with them to develop sustainably here, preserving and enhancing the green spaces they value. We will continue to work with campus occupiers, local authorities, and experts in placemaking to ensure we develop sustainably and responsibly. This will involve working together as a campus and with the surrounding areas to ensure joined up efforts to improve South Cambridge. To articulate our commitment to inclusive campus development, we have developed the following principles to guide the Vision.



For the campus

Balancing present and future needs

- Providing appealing, well-designed spaces for collaboration and recreation – accessible to anyone who works here or visits
- Connecting campus occupiers with Cambridge city centre, national transport networks and the world – optimising Cambridge South Station and other infrastructure investments



For our community

Providing a liveable, inclusive neighbourhood

- Improving local residents' access to healthcare and opportunity, promoting physical and mental health and wellbeing
- Delivering a walkable neighbourhood integrated into the wider community, and investing in the natural environment in our local area, improving biodiversity and opening up new attractive green spaces for public use
- Ensuring that Cambridgeshire has the housing that it needs, providing a mixture of tenure types to cater for the people who work here



For Cambridge

Facilitating an inclusive innovation ecosystem

- Powering Cambridge's **economic and employment growth** by expanding the globally competitive life sciences sector at scale
- Boosting Cambridge's **attractiveness** to global talent, Government spending, and investment while creating local opportunity and addressing congestion concerns
- **Developing sustainably**, co-developing environmental solutions and mitigations with a range of local and regional partners.



For the life sciences sector

Accelerating the cycle of discovering, proving and scaling healthcare innovations

- Securing the future of the life sciences sector by promoting open innovation, collaboration, and knowledge exchange
- Operating as the core of Cambridge's life sciences ecosystem, enhancing life sciences activity at other local campuses in a virtuous cycle that encourages innovation

For the world

Delivering against global commitments to health, inclusion and sustainability

- Improving lives by producing the discoveries, treatments, and medicines which tackle our most urgent healthcare challenges while promoting healthy living
- Creating a sustainable place through active travel solutions, biodiversity protections, and carbon neutral operations, while improving access to green space



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Glossary

CBC	Cambridge Biomedical Campus
CUH	Cambridge University Hospitals NHS Foundation Trust
CUHP	Cambridge University Health Partners
LMB	Medical Research Council Laboratory of Molecular Biology
GIA	Gross internal area
GVA	Gross Value Added
RPH	Royal Papworth Hospital NHS Foundation Trust

A Note on the Geography of this Vision

Throughout this report we use 'Cambridge' and 'the City' to refer to both the Cambridge City Council area and South Cambridgeshire district – as these two areas functionally comprise the urban area of Cambridge. This is the same as the area termed 'Greater Cambridge' by the two councils covering the area.

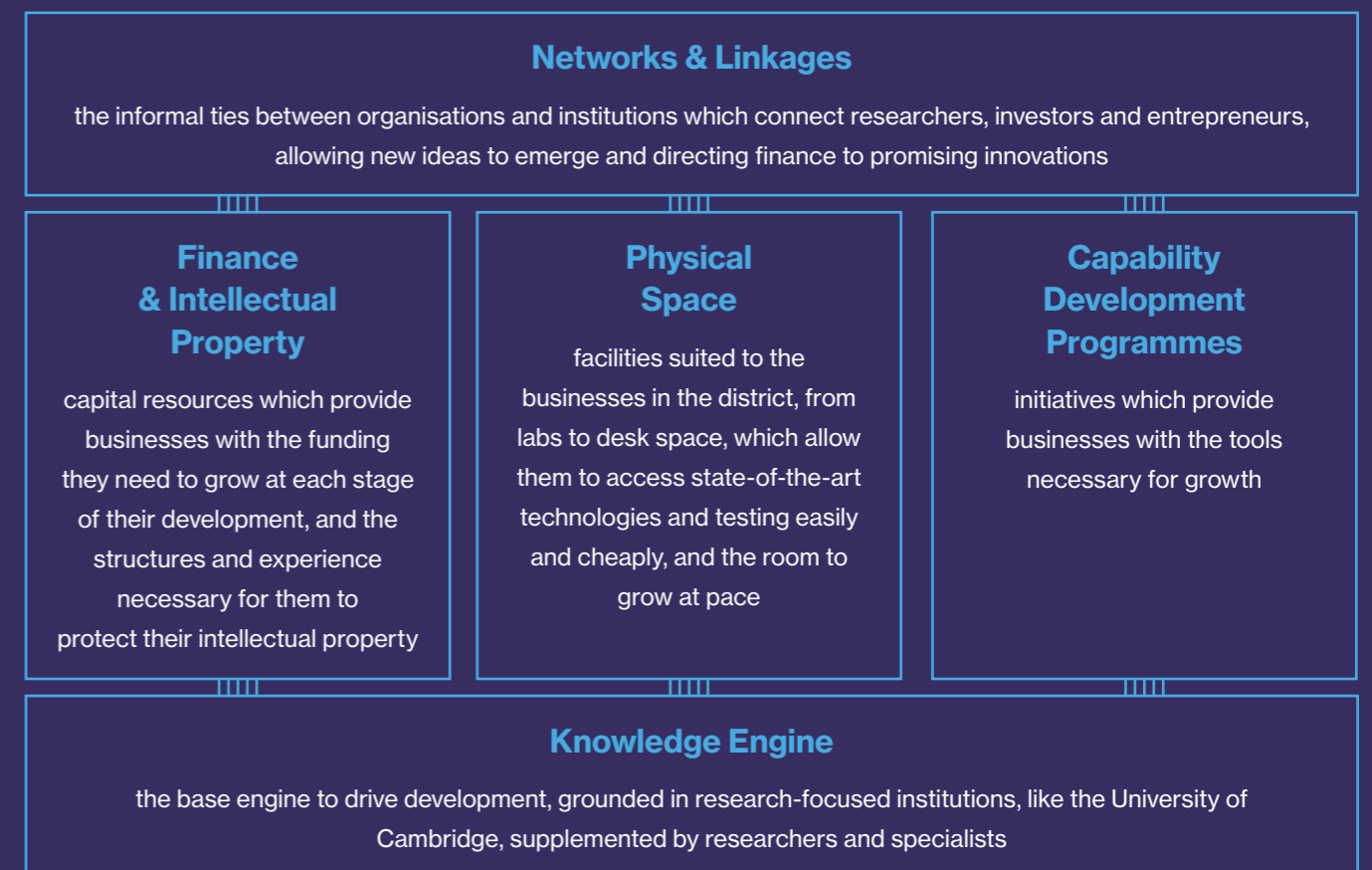
Where we need to refer to the Cambridge City Council area alone, we have used the term 'Cambridge City'.

The common characteristics of innovation districts

At the heart of all successful clusters are innovation districts, whose combination of attributes lays the path to dynamic growth. Some of those features include:

- A concentration of business and research
- Diversity of institutions, companies and start-ups
- Connectivity and proximity to education institutions and urban amenities
- Programming to build skills and networks
- Social interaction to facilitate collaboration
- Effective governance and stewardship
- Affordability of space, social spaces, and a quality of place that attracts and retains talent

No matter how effective, clusters are not sufficient in themselves. Innovation districts exist in larger ecosystems which sustain growth and which develop increasingly sophisticated fields and firms that promote growth. The Cambridgeshire and Peterborough Independent Economic Review set out a model, designed by David Cleavelly and Professor Andy Neely, which outlines the features that innovation ecosystems need to grow:





Cambridge
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