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CBC Demand and Deliverability Report

December 2022

Knight Frank

Cambridge Biomedical Campus

Demand and Deliverability 2022 - 2050

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Confidential

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Executive Summary

1. Author

This report has been prepared by Emma Goodford MRICS. She is a partner at Knight Frank LLP and now leads the Life Sciences team. Her career spans 35 years during which she led the National Offices team, European Tenant Representation team and most recently has focused on projects in the life sciences sector. Her clients include CBC Limited, Brockton Everlast, Stanhope, Cadillac Fairview, RLAM, Aviva, Gilead Sciences, Dow Chemicals and Microsoft.

She has experience in leasing and marketing life sciences projects, advising occupier clients in the science and technology sector and at master planning concept design and development on behalf of clients on projects including Green Park, Reading; Chiswick Park, London; Kings Hill, Kent; Milton Park, Oxfordshire, and White City Place, London.

2. Cambridge – Market Position

Cambridge's economy continues to grow rapidly. Specifically, in knowledge-intensive sectors which have thrived during the pandemic era 2020-2022. The Life Sciences sector is pre-eminent among these. Over the last six years (2014-2019) the life sciences sector has grown at an average of 21% each year, double the rate of the city's average.

The UK government has identified Life Sciences as a key pillar of its industrial strategy and a focus for the international competitiveness of the UK economy. Cambridge has the most mature life sciences ecosystem of the UK key life sciences markets and it is a cornerstone of the prime Golden triangle market.

3. Cambridge Biomedical Campus – The Campus Market Position

The CBC is acknowledged as the specialist Life Sciences district in Cambridge. It is unique as it is the only location in the city where three NHS trusts, a cluster of major research institutes, academia and commercial enterprise come together in one location. Through these adjacencies the value of collaboration is facilitated. CBC has successfully attracted the headquarters of multinational Life Sciences firms including Astra Zeneca and AbCam who chose the campus for their bespoke facilities recognising the value of the location and adjacent clinical and research facilities. The concentration of institutions and expertise, which make new discoveries possible, is recognised in the award of 12 Nobel Prizes to the LMB. Clinical services, supported by advanced research, provide health services to over 5m people in the region.

The report prepared by The Centre for Economic and Business Research (Cebr) titled 'Economic Impact Assessment of the Cambridge Biomedical Campus' and dated Aug 2022, reported the CBC role in supporting employment. Employment is set to increase in the future when AstraZeneca's presence on the CBC reaches capacity. Taking a prudent approach, Cebr expect a 25.5% increase in employment on the CBC from 20/21 (16,041 employees) with full time employees exceeding 20,000 in FY 21-22.

Having largely fulfilled its 2020 Vision, CBC's stakeholders and landowners have come together to consider what role the CBC should play in the coming decades to support Cambridge, the UK and Life Sciences globally: the product of that work is the CBC Vision 2050.

4. The Case for Life Sciences Expansion

It is acknowledged that Life sciences are critical to our future and the sector is expanding, fuelled by major advances in research and technology and the growing need across developed and developing economies alike for healthcare.

By 2024, global R&D spend is forecast to reach \$213 billion in the UK. To capitalise on this the UK must position itself as a country at the forefront of Life Sciences growth.

Life Sciences contributes over £30bn in Gross Value Added (GVA) to the UK economy and employs 256,100 people, growing by 9% since 2010, and with a further 268,000 people employed across medical technology, digital health, and biopharmaceutical sectors. In Cambridge itself, Life Sciences accounts for £2.3bn in GVA, 20% of Cambridge's total. There are 12,400 employees in commercial Life Sciences, with a further 21,200 public sector jobs in medical research within institutes and public hospitals.

5. Cambridge – The Life Sciences Ecosystem

There are 397 Life Sciences and technology businesses in Cambridge. This includes some of the world's most important companies as well as a source of highly dynamic start-ups which is a growth area for the sector given venture capital finance attracted into life sciences during 2020-2021.

The productivity of the sector is extremely high – £187,000 per employed person compared to £64,400 across the Cambridge economy as a whole.

Cambridge's success lies in its networks and collaborative approach. There is a thriving life sciences SME scene, in part driven by the University's dynamic commercialisation arm, Cambridge Enterprise that has spun-out more than 54 life sciences companies since 2011. Big businesses interact with academics, and start-ups spawned by the university. Cambridge supports a diverse range of entrepreneurs from all backgrounds who can socialise and participate in each other's research for mutual benefit. This unique ecosystem has the highest rate of patent applications in the UK with over 18 times the national.

The CBC is uniquely special. It provides not only Cambridge but the UK, as a whole, with the opportunity to attract ground-breaking, global biomedical life sciences occupiers, as evidenced by Astra Zeneca's commitment, in a unique place which is conducive to life sciences expansion.

6. The CBC Spatial Framework and Development Opportunity - delivering growth

The CBC Vision 2050 articulated the importance of integrated and spatially defined innovation districts:

"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."

The CBC uniquely leverages the value of adjacencies and collaboration. Connections and activities which exist between the University activities on the campus, the clinical and healthcare operations, the preeminent research institutes, and collaborative activities involving current and future commercial organisations who locate on the campus, must be supported.

The current spatial framework cannot deliver the quantum of space forecast to be demanded by commercial occupiers, beyond 2031.

The current spatial framework cannot significantly enhance placemaking and the provision of green sustainable infrastructure and cannot provide the range and quality of amenities and services which occupiers- public or private, increasingly demand. They require quality retail, food and beverage facilities and world class hospitality, conference, and wellness facilities to attract and retain the very best talent.

Only through the delivery of the expansion land at CBC can the challenges of the current campus be addressed.

The emerging spatial framework design, which includes the Phase 4 expansion land, creates an economically viable model which can deliver on all these facilities, in a connected and sustainable design and, additionally, it can provide key worker housing on the Campus supporting the clinical uses.

The role of Life Science quarters has evolved considerably since the establishment of CBC over 20 years ago. New and progressive settings include buildings at an increasingly human scale, development which considers transport impact and accessibility, a focus on engaging environments with both relaxing green spaces and enlivening amenities. Globally, dynamic innovation hot spots in districts in Boston, San Diego, and San Francisco, carefully curate a business and sciences ecosystem through the provision of different types of business space supported by a range and depth of services and amenities.

The UK market is learning from these exemplars the qualities needed to achieve success and attract investment and occupier interest. As the CBC has expanded, it has added essential infrastructure, but there remains a need to invest in amenities and facilities to develop an integrated and cohesive quarter to further enable and attract innovation. An emerging Spatial Framework which includes Phase 4, can deliver these additional qualities

7. The Case for Delivery and Occupier Demand Forecasts

Cambridge has a wealth of science parks, but none of them match the CBC for its capacity for Life Sciences innovation nor provide the unique adjacencies and collaborations the blend of academic, clinical, research institutes and commercial occupiers generate.

In life sciences and innovation sectors, collaboration is key, and the environment must foster connections, creating spaces, internally and externally to encourage connection between occupiers, health, and research functions on the Campus.

Examples of interaction and activities between research institutes, clinical enterprise and commercial entities are numerous. Proximate adjacencies are vital. For CBC to retain this unique position, it must create an exemplary environment and a pipeline that will encourage and attract more occupiers of local, regional national and international importance. It must create a sense of place and, through the provision of ancillary facilities and amenities support the evolution of business and the people who work there in both private and public sectors.

Equally occupiers now demand best in class space, this must be highly serviced and ammenitised, it must provide an ESG aligned solution and be technically sophisticated and it must create an environment where growth and expansion can be accommodated.

7.1 Demand and availability

Occupier demand in Cambridge is being constrained by a lack of current and pipeline supply.

Knight Frank Research record that from Q3 2021 to Q3 2022, Cambridge has seen 505,000 sq. ft of take up, in buildings over 10,000 sq. ft. Commercial research/laboratory space accounts for 51% of this take up.

Over the last 5 years average annual take up across Cambridge has been 345,000 sq. ft in buildings over 10,000 sq. ft (Knight Frank Research) and 450,000 if all take up is included (Bidwells research).

Within the last 5 years the CBC has attracted 765,000 sq. ft of demand, 153,000 per annum on average, which is approximately 33% of the annual average take up across the City. 100% of the space taken up on the CBC is commercial research/laboratory accommodation.

Greater Cambridge is currently witnessing active occupier demand of 2.2 m sq. ft in over 48 active named enquiries. Of this over 1.42m sq. ft demands laboratory/research accommodation.

There is no completed laboratory/research accommodation currently available in Cambridge. The schemes under construction, such as 1000 Discovery Drive at the CBC, are attracting strong occupier interest during construction and are expected to let before completion. Most active enquiries have no choice and need to repurpose office space.

Knight Frank Research record that current availability across the city exists in 500,000 sq. ft of space. This equates to just one years supply and all of this accommodation is office space.

All these data points are corroborated by local experts in Cambridge including Bidwells and Creative Places.

Overall, the vacancy rate in Cambridge is sub 5%. Knight Frank advise that when a city shows a vacancy rate of less than 5%, liquidity in the market is insufficient and inadequate choice exists for occupiers to consider, particularly when there is such a healthy level of active latent demand.

7.2 Forecast Demand

Growth in life sciences during and post pandemic, and the recognised potential which Cambridge can deliver for the active named occupier demand, have enabled Knight Frank to set out their forecast for demand and take up. Knight Frank forecast that commercial occupier take up in 2023 will rise to 660,000 sq. ft. Continued investment and growth in life sciences will then support a modest, 10% per annum increase each year over the next 10 years. At that point, Knight Frank forecast that there will be a more mature market position and they forecast that demand will taper from 2033, at which point take up will be close to 1.3m sq. ft. per annum.

Based on the evidenced take up at CBC, it is clear that the Campus creates its own unique demand and it will also attract a percentage of space demanded across the wider city region.

Over the next 2 years, because of interest in Discovery Drive 1000, Knight Frank have forecast the CBC will attract 30% of all Cambridge demand, thereafter, it is conservatively forecast that CBC take up will taper to 20% and, in 10 years' time, a conservative forecast would see CBC attracting 15% of all take up. Due to the unique occupier mix on the CBC take up is expected to be predominantly from commercial research organisations. However, with science and technology converging, take up could be more blended and comprise laboratory and office accommodation with an innovation focus.

Using take up forecasts from Knight Frank, the CBC could attract commercial occupier take up, on average, of 290,000 per annum every year over the next 10 years. Thereafter average annual commercial take up of 250,000 sq. ft per annum is forecast.

This report is also conservative in that it takes no account of potential additional take up from Research Institutes which history and common sense show will want to cluster and be accommodated on the CBC.

These forecasts are corroborated by active interest in 1000 Discovery Drive, which is being developed speculatively by Prologis where occupiers are expected to sign lease commitments before the building is complete and by occupier interest reported for Phase 2.

If Phase 3, follows completion of Phase 2, Knight Frank have forecast that the Campus will have no more commercial research and office capacity by 2029. This can be extended modestly to 2031 if there is some permitted densification to the spatial framework.

For the campus to remain competitive it must demonstrate that space can be deliverable over the Local Plan period and beyond. Commercial R+D occupiers and research institutes will be attracted to this unique campus setting but if they are to scale, expansion space must be available. Phase 2 and 3 alone, do not deliver this longevity.

For the CBC to be globally competitive it must also provide a diverse range of spaces and supporting infrastructure, designed with a focus on sustainability and a strong ESG agenda and delivered together with amenity facilities, which are now demanded by progressive world leading institutions and businesses.

The challenge for Cambridge is to deliver a supply of life science enabled accommodation to ensure the sector can continue to flourish. US companies are now considering a UK footprint- Altos Labs, Illumina and Moderna are examples of companies requiring in excess of 100,000 sq. ft. These big requirements will need development of scale to be accommodated in Cambridge and confidence that longer term expansion can also be accommodated.

Cambridge must challenge competition from London and other international cities such as Boston which may become more significant if venture capital finance begins to influence company real estate strategy.

8. How can CBC deliver through the Local Plan period?

The Local Plan 'Big Themes' include climate change, with a commitment to net zero; biodiversity & greenspace; wellbeing & tackling inequality; and great places. This aligns with occupiers' requirements who see these attributes as beneficial to productivity, growth, and employee wellbeing.

The stakeholders in CBC Ltd have collectively recognised that the future Spatial Framework for the CBC must accommodate hospital/clinical expansion. This can be achieved across all spatial framework designs with plots reserved exclusively for this use.

If the CBC is to deliver for the Local plan period, the design framework must have capacity, breadth, and range to accommodate commercial occupiers and research institute organisations who want to benefit from the value of clustering in this unique location. These organisations now demand a broad range of facilities which enhance the quality of the environment in a sustainable way, for employees in private and public sectors.

Hawkins Brown architects have considered the current spatial design framework and this exercise shows that the Phase 2 and 3 land can accommodate commercial demand until 2029. If there is some densification on plots within the wider Campus, expansion is extended to 2031. Capacity from this exercise is summarised below.

Commercial Take up against Spatial Framework capacity

Existing CBC Campus 2,150,000 sq. ft:

Commercial space capacity extends to 2029

Existing CBC Campus densified

2,495,000 sq. ft:

Commercial space capacity extended to 2030/31

Emerging Spatial Framework for CBC with Phase 4 added:

Commercial space Capacity increases to 4,495,000 sq. ft and enables provision of amenity and services key worker homes

Hawkins Brown has also considered an Emerging Spatial Framework design which includes the Phase 4 expansion land. The value accretion of this emerging spatial framework provides for a 100%+ increase in amenity and services facilities, including community uses, wellness and leisure facilities, diverse food, and beverage amenity, 2 hotels and conferencing and key worker residential accommodation. This emerging spatial framework design fulfils the Local Plan Big Themes and by adding these extra facilities so that the CBC can deliver a 'place making and facilities' premium on rental value. This allows the CBC to maintain its unique position at the forefront of the Cambridge life sciences offer and extend the longevity of the project for the length of the Local Plan period.

9. The Spatial Framework Economic Model

Knight Frank has prepared an economic model which considers the performance of the current CBC spatial framework design and how the CBC performs with an emerging spatial framework incorporating the Phase 4 expansion land. Headline rents are forecast at £60+ per sq. ft. A combination of pre let and speculative development is envisaged.

The emerging spatial framework will attract a placemaking premium and a greater level of pre-let interest due to the diversity, range and choice of the amenities and facilities it can accommodate.

The Economic Model demonstrates that there is a positive delta in value between the two spatial framework designs and enhanced value in the emerging spatial framework. This positive delta enables the delivery of better quality placemaking, additional facilities, and key worker residential accommodation as well as extending the longevity of the CBC beyond 2031.

Contents

1.	Introduction	1
1.1	Introduction and Purpose	1
2.	Cambridge	2
2.1	A fast-expanding economy	2
2.2	Venture Capital Fuelling Continued Growth of Cambridge and CBC	3
2.3	Growing Employment in Cambridge	5
3.	Cambridge Biomedical Campus – Unique attributes	6
3.1	Why CBC?	7
4.	The Case for Future Demand- market dynamics	10
4.1	Occupier Demand- Take Up	10
4.2	Occupier Demand - Unsatisfied	12
4.3	Current Availability and Vacancy Rate	12
5.	Occupier Priorities and key requirements- how these dictate design.	14
5.1	Quality	14
5.2	Experience and Environment	14
5.3	Service & Customer Centricity	14
5.4	Amenity Rich & Supporting Employee Wellbeing	15
5.5	Aligned to the Entire ESG Agenda, not just the E	15
5.6	Technology and Data Rich	15
5.7	Creating a Place for Scalability	16
6.	Spatial Framework Design Priorities	17
6.1	Gap Analysis – Key ingredients	17
6.2	Gap Analysis Performance – The Cambridge Biomedical Campus – what are the missing ingredients ..	18
7.	Take Up Model for the CBC – Future Demand Forecast for the CBC	20
8.	How will demand be accommodated at the CBC?	21
9.	The Economic Model and the Delivery Model	22
10.	Conclusion	23
	Appendix 1	24
	Appendix 2	27

1. Introduction

1.1 Introduction and Purpose

This report has been prepared by Emma Goodford, Partner at Knight Frank LLP and head of life sciences and innovation. Her career has spanned 35 years and her focus since 2019 has been on the Golden Triangle markets and the specifics of the science and innovation sectors. Her experience, clients and projects are detailed in the Executive Summary.

The purpose of this report is:

- To consider the market position of Cambridge, the significance of the city in the regional, national, and international marketplace and growth potential.
- To examine the specific and unique attributes of the Cambridge Biomedical Campus (CBC).
- To answer the question, why occupier demand is attracted to Cambridge and specifically attracted to the CBC. We explain the significance of the collaboration between clinical/hospital, academic, research and commercial occupiers and the interrelationships which will only develop if these organisations are clustered together.
- Based on market data from Knight Frank Research, the report explains the basis for forecasting future demand for commercial science and technology sectors while recognising that Research facilities are expected to be attracted and will want to cluster in the CBC.
- It details how successful life sciences focussed projects have evolved and the environments and facilities they have created to flourish and compete in a global market. There is evidence which shows these attributes are delivered due to occupier demands for them.
- Applying all of these considerations we assess the CBC current spatial framework for the development of Phase 2 and 3 and the planned clinical expansion and we consider the missing ingredients. This reports then explains how a revised Emerging Spatial Framework design, prepared by Architects Hawkins Brown, and which incorporates the Phase 4 expansion land, can create a best in class, highly amenitised, sustainable project which will have the ability to accommodate growth for the Local plan period.
- It considers the value creation, shown through the Knight Frank Economic model, which the Emerging spatial framework design will generate to the delivery of the additional amenities and facilities. We examine how the inclusion of the Phase 4 expansion land delivers positive viability and longevity for the CBC.

Post the Pandemic the science and technology sectors have accelerated and entered an era of globalisation, focussed on talent attraction and retention and addressing a required approach to the challenge of environmental, social and governance issues which are critical and value accretive for the CBC, and the wider Cambridge community.

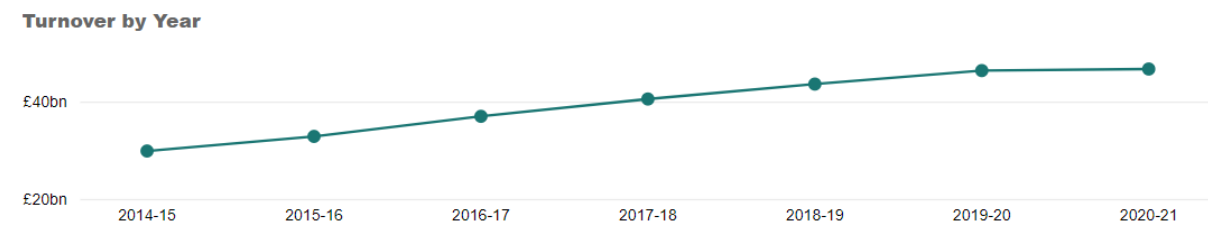
The requirements of the hospitals for clinical needs are allowed for and plots reserved for these uses. Requirements from Research Institutes are referenced but are not included in calculations for take up or forecast demand of space on the CBC.

2. Cambridge

2.1 A fast-expanding economy

Cambridge has a mature life sciences sector and is a fast-growing city with a global reputation for innovation and research excellence. Within the UK Cambridge is the most mature life sciences cluster. The Cambridge economy has expanded in recent years, boosted by the University and various Research Institutes that have been recognised, more than ever, during the Covid-19 Pandemic.

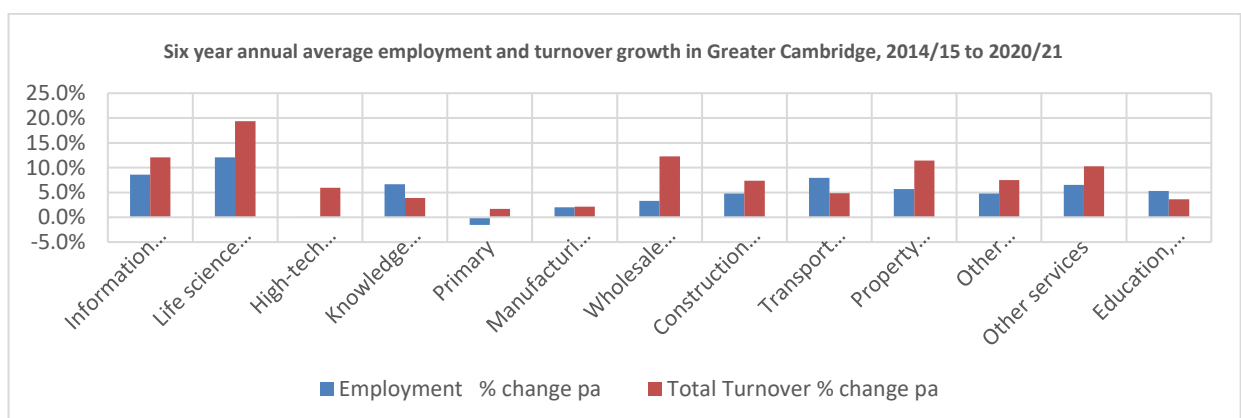
In August 2022 the Centre for Economics and Business Research (Cebr) ¹produced an update on their report analysing the performance of the Cambridge economy and specifically the economic impact of the Cambridge Biomedical Campus. This established that the Cambridge City region turned over a total of £47bn in 2021, which is a 0.7% increase from the previous year. The total amount of employees stood at 234,985, again achieving a 1.8% rise from 2020.



Source: Cebr Cam, 2021

Consistent progress within the Cambridge city cluster shows a positive outline at city level, but more importantly, highlights that life sciences within this demographic, play a major role towards the city's economic success.

Knight Frank Research has considered both the change in employment and the change in turnover of business sectors in the City of Cambridge. The graph below shows the life sciences sector demonstrating the highest growth in both areas over the last 6 years, and 12.5% growth in employment and just under 20% growth in turnover levels.



Source: Knight Frank Research 2022

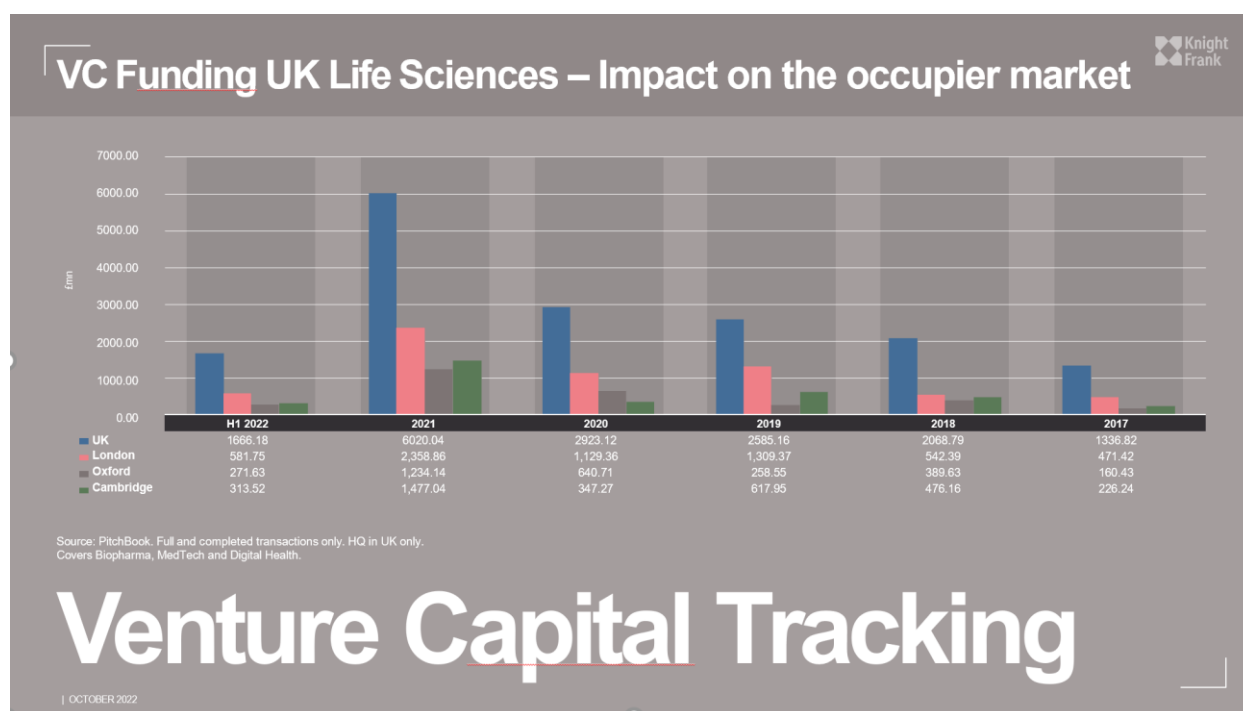
¹ Economic impact assessment of the Cambridge Biomedical Campus – Cebr 2022

It is acknowledged that Life sciences are critical to the future and the sector is expanding, fuelled by major advances in technology and the growing need across developed and developing economies alike for healthcare. By 2024, global R&D spend is forecast to reach \$213 billion and the UK must position itself as a country at the forefront of Life Sciences growth. Life Sciences contributes over £30bn in Gross Value Added (GVA) to the UK economy and employs 256,100 people, growing by 9% since 2010, and with a further 268,000 people employed across medical technology, digital health, and biopharmaceutical sectors. In Cambridge itself, Life Sciences accounts for £2.3bn in GVA, 20% of Cambridge's total.

The continued growth of the life sciences, tech and knowledge sectors supports the forecast for growing occupier demand in Cambridge, a city, which, over the last 5 years has been constrained by a lack of supply.

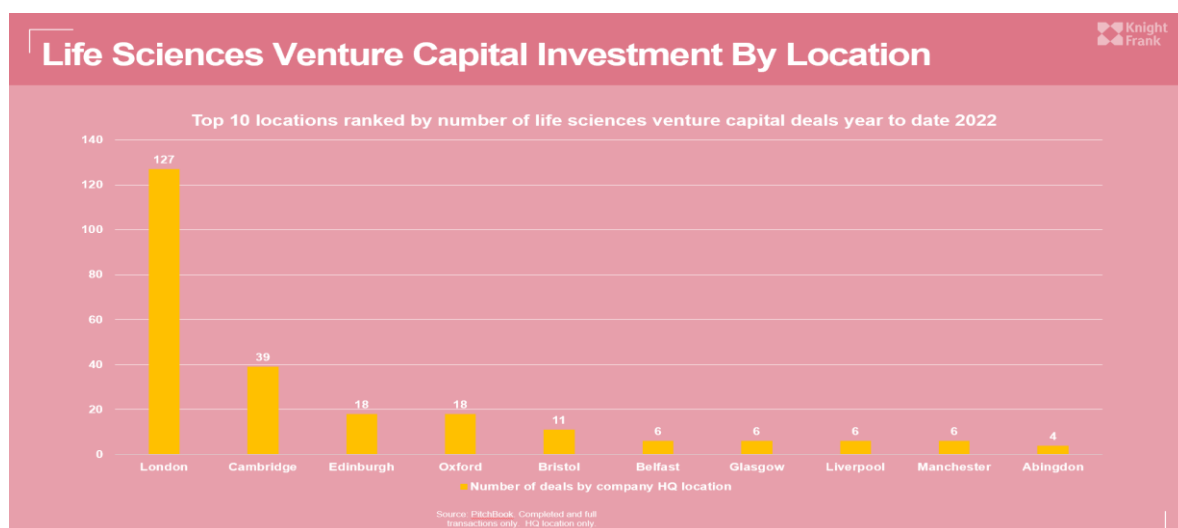
2.2 Venture Capital Fuelling Continued Growth of Cambridge and CBC

The finance raised by life sciences companies in the Golden triangle is a key measure and evidence of the potential for success of the real estate market needed to accommodate these businesses and as a driver towards maturity of the market. The chart below shows that 2021 was a standout year. In Cambridge VC funds of just under £1.5bn were raised. Although slowing in 2022 at H1, the performance is already better than the 5-year average.



Source: Knight Frank Research H1 2022

Venture Capital within Cambridge averaged £417.27m over the period of 2018-20 as detailed on the chart above. In line with activity across the Golden Triangle markets, levels in Cambridge in 2021 saw a significant increase of 333.72% from 2020-21 to a level of £1,488.94m, amplifying strong levels of VC funding within the local Cambridge Market. H1 2022 has seen this drop back in line with other markets, however Cambridge is performing ahead of its counter city, Oxford in the Golden Triangle, attracting a greater volume of venture funding in 2022 as shown below, and with the number of companies receiving funding 100% higher than in Oxford. This demonstrates that the Life Sciences and innovation sector is robust and growing in Cambridge.

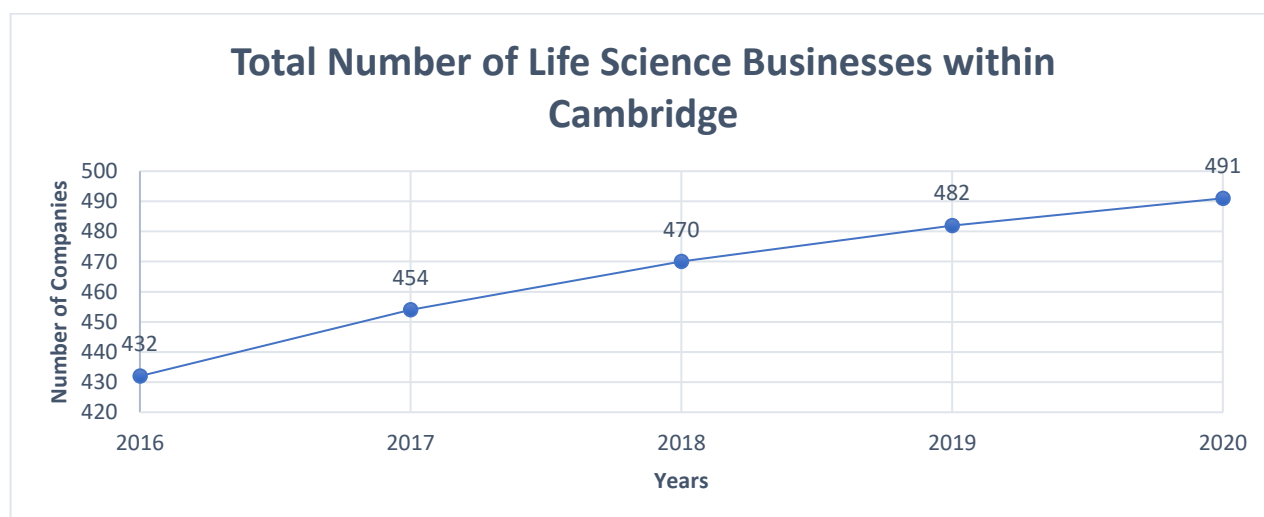


Source: Knight Frank Research H1 2022

Within Cambridge, the Letscellit Report 2021² found that 50% of the companies in Cambridge raised venture/debt finance and 5 companies raised >£100m in last 5 years. 6 companies raised >£50m in last 5 years and 14 companies raised >£10m in last 5 years. £425m was notified as the largest round in last 5 years.

Although recent market turbulence and rising inflation may create a reduction in finance into the sector, larger companies are well financed after 2 years of record VC funding. Smaller companies at the preclinical stage may however expand more slowly.

As the venture capital into the sector has increased (generally) over the last 5-years, so has the number of operational Life Sciences businesses within Cambridge. The data below, collated from the Office for Life Sciences 2020, shows an upward trajectory of 13.7% for the period 2016 to 2020. The data considers companies registered under biotechnology and health technology within Cambridge.



Source: Office for Life Sciences 2020

² Letscellit Cambridge Biomedical Cluster report 2022

2.3 Growing Employment in Cambridge

The 2022 study from the Centre for Business Research (CBR) shows that the number of corporate businesses in the Cambridge city province scaled-up by 1.8% overall during 2020/21. While local growth in the first stages of the pandemic (2019/20) was greater, at 4%, this current data shows that growth was maintained across what was a disaster year. Over the last six years CBR identify, that the average yearly growth in employment has been 5.3%, showing a very healthy rate of job creation³.

The life sciences cluster in the Cambridge city region grew employment by 10.3% in 2020/21, while Information Technology and Telecommunications increased employment by 6.9%⁴.

The 2022 Letscellit Report on the Cambridge Biomedical Cluster identified 397 companies located within the Cambridge cluster and of these 52% are located within one of the 13 Science or Research Parks within Cambridge, signifying the importance of clustering. Cambridge has a mature corporate occupier market, and this is evidenced by the following outputs from the report.

- 64% have their global HQ in the cluster
- 89% are UK Headquarters facilities
- 25% owned by a single corporate entity
- 12% (48 companies) are Cambridge University spin outs

This data alongside AstraZeneca's move to the CBC, highlights the increasing employment levels now being witnessed within Cambridge.

The Cebr Report also considered employment growth on the CBC and concludes that this will grow by 25.5% in 21/22 to reach a level of over 20,000 employees at the Campus. The same report considers productivity on the Campus which is also demonstrating growth showing a 27% increase from 18/19 to 20/21 demonstrating high economic productivity.

This rate in job growth/employee numbers and productivity is important to consider when forecasts of commercial space take up/absorption are projected.

For this growth to be accommodated in Cambridge, exciting, deliverable projects must be created in the city offering the credentials occupiers in the research and development, science and technology and innovation sectors demand.

³<https://www.jbs.cam.ac.uk/insight/2022/cambridge-independent-life-sciences-and-it-drove-cambridge-growth-in-pandemics-first-year/>

⁴ <https://www.cambridgeahead.co.uk/news-insights/2022/science-and-innovation-sectors-in-cambridge-drive-growth-in-regional-employment-despite-pandemic-turbulence/>

3. Cambridge Biomedical Campus – Unique attributes

The scale and concentration of academia, research, clinical and commercial activities is not found elsewhere in Cambridge. Across the wider UK market there is no other campus with this diversity and scale, so closely intertwined which can compete with the CBC.

The CBC is Cambridge's specialist life sciences district.

It has a number of unique characteristics when compared to other science parks in Cambridge. The CBC is home to three NHS trusts, major research centres including for molecular science and cancer and an establish University of Cambridge teaching presence. It has successfully attracted and accommodated the headquarters of multinational Life Sciences firm Astra Zeneca, who have invested close to £1bn in their 600,000 sq. ft facility. Astra Zeneca is a key occupier on CBC, with 4,000 employees within Cambridge and 2,200 to be located on CBC. This is a 27.9% share of the total AstraZeneca UK employees. AbCam have also selected CBC and developed a new laboratory facility of over 114,000 sq. ft.

The CBC hosts the concentration of research institutes and research capability which make new discoveries possible and provide health services for the whole region. There are other parks in Cambridge which deliver some of these credentials but none which have the interrelationships and collaborative advantages of the CBC.

Activities at CBC drive an integrated care system of 1m people locally and 5m regionally and for life sciences companies this proximity and access to patient data is a crucial attraction of the CBC to many commercial occupiers. The closeness of these activities also delivers a sustainability benefit reducing movements outside the Campus.

When specifically looking at funding for entities on CBC, operating revenue and funding of companies have been increasingly reliable over time. From the financial years ending 2019 to 2021, operating income and funding increased by £400m (26.5%) from £1.51bn to £1.91bn. This demonstrates the progress that has occurred on the CBC over this period, being notably consistent, and notwithstanding the COVID-19 pandemic happening at the start of 2020.

The unique nature of the CBC ecosystem dictates that it must be providing accommodation for a full range of companies at varying stages- starts ups, scale ups and national and global companies, fulfilling its potential of growth to a fully mature life sciences ecosystem, able to withstand market cycles as demand for space fluctuates.

Growth in Cambridge employment has been detailed at section 2.3 above and when comparing the Cambridge market to the CBC, the study conducted by the Cebr shows that the number of Full Time Employees on the CBC has increased from 14,961 in 2018 to 16,041 in 2021, growing to over 20,000 by the end of 2022- a 25.5% increase. This growth compares to a 0.44% of growth in employment across the UK economy as a whole.

The CBC has a unique combination of occupiers in the science and research sectors, not found elsewhere in Cambridge or the UK. It is uniquely capable of supporting growth economically and in employment.

3.1 Why CBC?

The CBC is a unique facility in the UK life sciences market. It has a rich culture of collaboration and interconnectedness.

The global ranking of the University of Cambridge, second only to MIT, and the quality of the clinical school is undoubted.

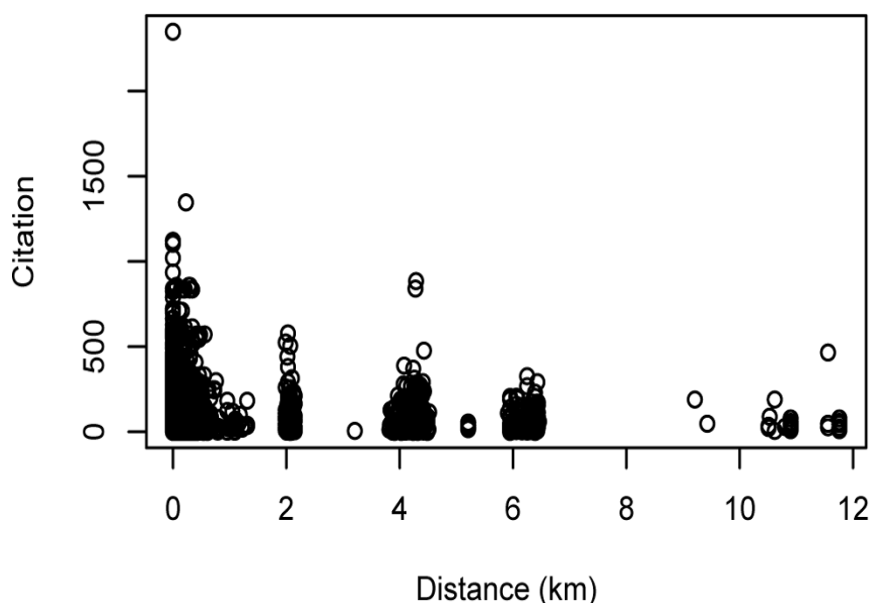
The collection of research institutes and the profile and value of their achievements is a key component in attracting commercial occupiers. The 12 Nobel prizes achieved by the LMB signifies the outstanding quality of the research delivered at CBC.

Being located on a thriving and potentially expanded biomedical campus has benefits for healthcare delivery at the hospitals and the translation of research. The developments of the Cancer and Children's hospitals will deliver integrated research and translation space for both academic and industrial partners which contributes directly to the costs but also helps in obtaining national support for these projects. Knowledge that the clinical needs of the hospitals can be accommodated during the Local Plan period and beyond give credibility to the project.

The campus enables early access to novel treatments and diagnostics that are being developed by partners who value facilities which are co-located. And the CBC supports the attraction of talent into roles at all grades with the potential for clinicians and researchers to collaborate but also to change roles and jobs between different organisations with the same site.

The ability for the organisations at CBC to accelerate growth commercially is recognised as the reason Astra Zeneca and AbCam selected the CBC over other science parks in the city.

The research value of proximity can be seen in the infographic below from the Harvard Centre for Biomedical Informatics. This identified that as distance increases the number of research citations reduced. This exemplifies the value of adjacencies and interrelationships which can be achieved on CBC- a campus which is walkable and where collaboration can flourish.



Does Collocation Inform the Impact of Collaboration?

Kyungjoon Lee, John S. Brownstein, Richard G. Mills, Isaac S. Kohane

Harvard Centre for Biomedical Informatics

Published: December 15, 2010

In Kendall Square, Boston, Jane Wilkinson, Executive Director at the Koch Institute for Integrative Cancer Research at MIT has shared the graphic below. This shows the collection of organisations that have a presence with the MIT/Kendall Square ecosystem, which occupies just 7 square miles in Cambridge, Boston. The relationships are clear here - academia, science, technology, healthcare, and commercial occupiers all have a closely connected presence because of the collaboration needed to operate effectively and accelerate knowledge and growth. Significantly, the last component of this ecosystem was the arrival of the big pharmaceutical organisations who expressed a fear of missing out if they did not establish a presence here. AZ, Novartis, Takeda are all significant occupiers within the Kendal Square ecosystem. Crucial to this ecosystem is the integration of facilities which support the area- hospitality, wellness, food and beverage, conference, serviced labs, and venture capital.



The following email from a Government department explains how commercial research organisations are prioritising the CBC:

‘

I wonder if you might be able to help out with a potentially very significant prospect, we have with XXXXX particularly around finding them lab space in Cambridge.

We are in early-stage discussions with XXXX, scoping the potential and possible structure of a strategic partnership which would include them bringing a significant part of their clinical trials to the UK and establishing R&D collaborations in XXXXX. In parallel they are also working on setting up a UK footprint, starting with an office (in London) and an R&D lab (in Cambridge) with the potential to add manufacturing, dependent on the outcome of the strategic partnership discussions.

XXX are eager to move very quickly on setting up their R&D lab in particular (aiming to have something in place by January 2023), this does not appear to be dependent on the strategic partnership discussions. Their priority is proximity to the Cambridge Biomedical Campus (CBC) and we and DIT have worked with them to identify space in the 1,000 Discovery Drive development which fulfils their requirement to be close to the CBC. we have advised XXXXXXXX to act fast given the shortage of suitable space in Cambridge.’

Email from Head of UK Government Department

If CBC is to compete globally, aspiring to an ecosystem similar to Kendall Square/MIT would allow competition on equal terms and recognise the legitimate requirements of businesses that should be accommodated because they will bring so much to the CBC and the wider city.

There is no other park in Cambridge or the wider UK market which, holistically, can deliver the same collaborative benefit to all current and potentially future occupiers.

4. The Case for Future Demand- market dynamics

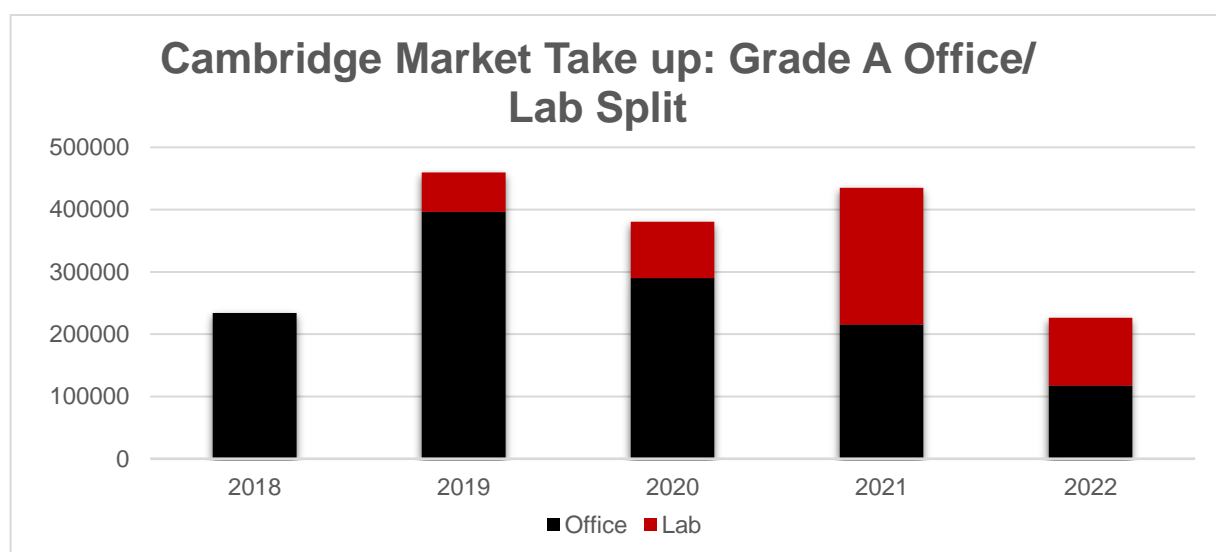
Since 2020 the growth, globally in research and development in healthcare has increased sharply. The existence of academic, clinical and research excellence, combined in one location is unique at CBC and is an accelerator for growth.

Sector growth is supported by the UK Governments focus on Investment into the life sciences sector as they seek to implement their UK Innovation strategy and Life Sciences Vision 2021- establishing the role of NHS and tackling 7 key health challenges which include an ageing population and cancer prevalence.

4.1 Occupier Demand- Take Up

We have considered the dynamics of supply and demand in Cambridge over the last 5 years as a component for forecasting future commercial occupier activity. Knight Frank Research analyse data for commercial office and laboratory take up in buildings over 10,000 sq. ft. This is aligned with the scale of the CBC project; larger transactions which take place in larger buildings, being most relevant.

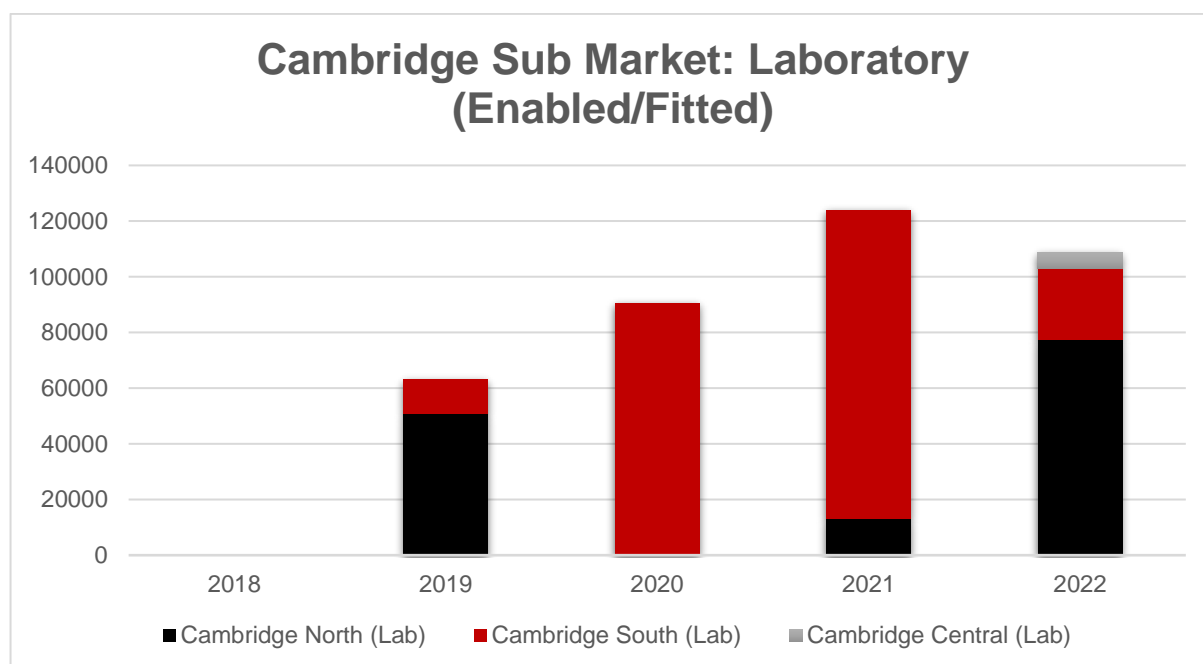
Over the last 5 years Knight Frank Research have recorded the following levels of take up which indicates on average, 346,000 sq. ft of take up per annum over the last 5 years, including 2022 to date, in buildings over 10,000 sq. ft. Local experts record take up levels slightly ahead of these figures as their data tracks transactions of all sizes and this take average annual take up to 450,000 sq. ft.



(Source: Knight Frank Research October 2022)

We have also considered the laboratory take up and analysed data, to place lab take up either into the northern, central, or southern clusters of Cambridge. Demand in this sector has predominantly been driven by availability, with laboratory space committed rapidly as soon as availability arises and with occupiers unable to influence submarket location. At the end of 2021 the two lettings at the Portway Building, Granta Park to Altos Labs and Bicycle Therapeutics, dominated the southern cluster take up. In 2022 the acquisition by Nuclera at Mortlock House in Vision Park, in the northern cluster, is the main take up contributor. Generally, the southern cluster market has witnessed greater research/laboratory take up due to the presence of CBC, Granta Park, Babraham and Wellcome- the value of clustering influencing

activity, despite limited choice. In 2022 laboratory take up will account for just one fifth of all commercial take up but this is entirely due to the fact that there is zero availability in the market.



(Source: Knight Frank Research October 2022)

This report is not intended to comment specifically on Research Institute take up because it is typically grant or charitably funded but it is important to recognise the success that CBC has achieved in attracting Research Institute occupiers and development. Since 2013 the following Research Institute take up has committed at the CBC amounting to 65-70,000 sq. ft. per annum, on average over this timeframe.

CBC Recent Research Institute Developments			
Name	Permitted Size	Completion	Type
Laboratory of Molecular Biology	25,209	2013	Research
CRC Extension	4,017	2017	Research
Jeffrey Cheah Building	18,000	2019	Research
Anne McClaren Building	9,033	2020	Research
Heart & Lung Institute	6,639	2022	Research
Total	62,898 sq. m		
	677,000 sq. ft		

Source: Creative Places 2022

4.2 Occupier Demand - Unsatisfied

Knight Frank has considered active unsatisfied commercial occupier demand in Cambridge as this informs the forecasts for future take up.

As at November 2022, Knight Frank Research record 2.21m sq. ft of active named demand, in 48 separate enquiries which are in excess of 10,000 sq. ft.

1.42m sq. ft (64.25%) of the total space required is demanding laboratory accommodation. Requirements from companies including Bit Bio, Benevolent AI, Astex, Illumina and in the mid-term Altos Labs. Overall, current lab enabled availability stands at just 36,000 sq. ft, virtually zero. There are 5 very large research/laboratory requirements active at the current time and 20 research/laboratory enquiries in the mid-market size of 20-50,000 sq. ft. Mid-size enquiries are less likely to prelet and typically acquire from standing stock. The analysis of requirement size is shown in the following diagram:



(Source: Knight Frank Research October 2022)

For the last 24 months the level of active named occupier demand has remain unchanged and since Q1 2021 there has been 661,000 sq. ft of take up. This absorption in the market has been back filled by new enquiries, demonstrating a robust position for occupier demand. This demonstrates the maturity of the Cambridge market and provides a basis for the Knight Frank take up forecasts which can be anticipated for the city, in an expanding era of occupier demand, fuelled by the expansion of the life sciences, tech and innovation sectors.

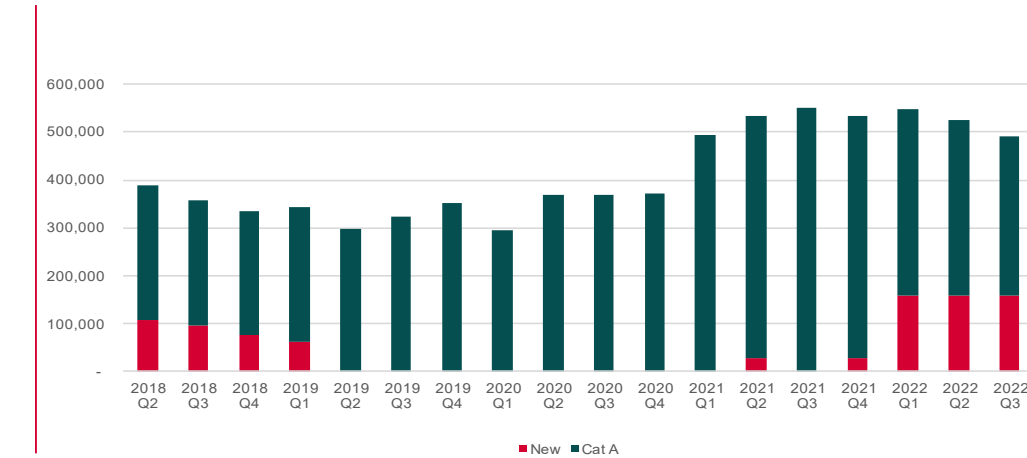
4.3 Current Availability and Vacancy Rate

Knight Frank Research monitor new and grade A availability. In Cambridge, over the last 5 years we have seen a gradual increase in availability of grade A and new developments which have been completed through 2020/21 in the northern cluster. This stock in its entirety has been office accommodation with the exception of the refurbished laboratories at Granta Park in the Portway building which let before the refurbishment was completed.

Since early 2022 there has been a steady decline in availability of office accommodation and laboratory accommodation is now at virtually zero. The graph below shows this market dynamic:

2

Cambridge Market Availability



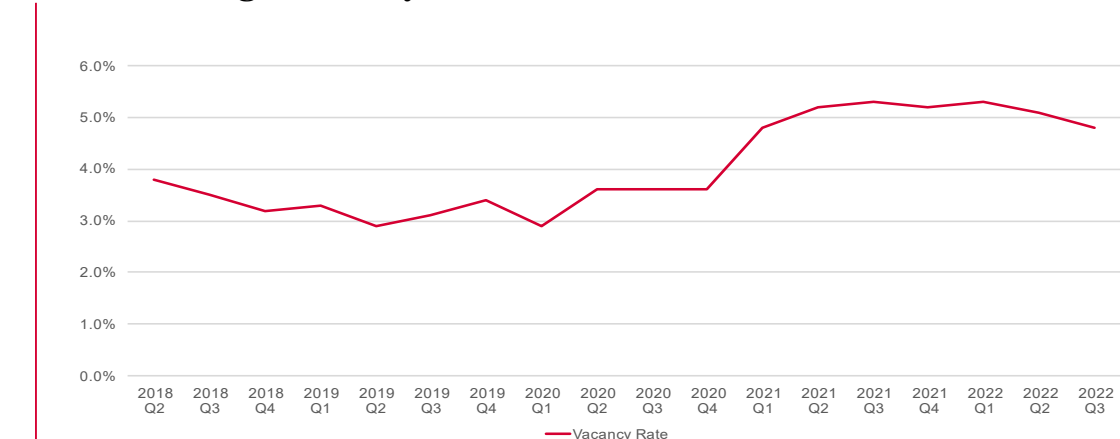
15 Your partners in prosperity for 125 years

(Source: Knight Frank Research Q3 2022)

Of equal importance is the vacancy rate which is shown below. Knight Frank advise that current availability of new and grade A space across the city, stands at just under 500,000 sq. ft – all of this office accommodation and the vacancy rate has fallen since Q1 2022 to just under 5%. Knight Frank advise that when a city shows a vacancy rate of less than 5%, liquidity in the market is insufficient and inadequate choice exists for occupiers to consider, particularly when there is such a healthy level of active latent demand. Typically, vacancy at this level stimulates new development.

3

Cambridge Vacancy Rate



15 Your partners in prosperity for 125 years

(Source: Knight Frank Research Q 3 2022)

There is some speculative development underway. 1000 Discovery Drive on the CBC, which is laboratory enabled, 3 units on the Unity Campus in the southern cluster which will offer fitted and lab enabled space. One Cambridge Square in the Northern Cluster which is an office building. All this space is expected to be prelet before completion. Thereafter Cambridge will wait up to two years before new stock is completed in the City.

5. Occupier Priorities and key requirements- how these dictate design.

The Knight Frank (Y)OUR SPACE research is the primary source of Knight Frank materials around the changing nature of the global workplace. In 2021 Knight Frank surveyed almost 400 global corporate real estate leaders (collectively responsible for the workplace of more than 10 million people globally) in relation to their future workplace needs. Although principally a response relating to offices, the same themes are essential in the creation of vibrant mixed-use environments. The ambition at CBC is to create an environment which fulfils each of these criteria plus provides for the specific requirements of a science and innovations campus.

These key considerations are summarised below:

5.1 Quality

Across all prime markets there is a discernible flight to quality workplaces (both external façade and internal fit out). This supports the portrayal of brand and is compelling to current and future employees. Notably, across global markets the proportion of transactional (leasing) activity taking new and fully refurbished grade A space has increased. A demand for best-in-class space has been seen in both newly procured health and research institute facilities at the CBC and in the acquisitions by Abcam and Astra Zeneca.

5.2 Experience and Environment

Landlords typically think about the provision of high-quality environments (addressing the point above) but they need to extend beyond this to think about the experience they provide their customers both in engagement and delivery. Modern occupiers are seeking workplaces that enable connection, collaboration, and socialisation (the days of the office / workplace being about row upon row of desks of people administering email are gone). The workplace has to present a compelling, progressive experience that gives people more than they can achieve from a remote setting. Equally, the landlord needs to have a stronger understanding, appreciation, and engagement with the customer.

At the CBC the spatial framework exercise has focussed on addressing this requirement. In life sciences and innovation sectors, collaboration is key, and the environment must foster connections, creating spaces, internally and externally to encourage connection between occupiers, health, and research functions on the Campus.

5.3 Service & Customer Centricity

Central to this experience is the provision of service layers that enable occupiers / employee to be retained. Some are working with operators to deliver this rather than doing so themselves but the creation of consistent high-quality service at an asset and estate level is central to making the scheme compelling / giving people a reason to invest in their commute. Research and laboratory uses demand a presence on site and the perception that science does not need the same level of service and amenity as conventional offices has been dispelled in the US where competition for scientific employees is fierce and the service facilities can influence employee decision making.

There needs to be an aspiration towards hotel/hospitality level service which enhances the day-to-day experience of people using the space and addresses a functional need. This is deliverable when the capacity of the Campus increases and the expansion land in Phase 4 is included in the Emerging Spatial Framework.

5.4 Amenity Rich & Supporting Employee Wellbeing

The experience is also underpinned by amenity provision either at an asset or a coherent estate level. Amenities that support wellbeing are front and centre of the occupiers consideration with this agenda progressing beyond physical wellbeing (gyms, end of trip facilities etc) and embracing facilities that support mental wellbeing (e.g. use of green space, open air, provision of spaces to focus, connectivity free zones, sanctuary rooms etc). The next frontier on wellbeing is personal growth and development – an area that occupiers themselves are focused on given the pressing need to upskill and reskill staff. Amenities that support learning (e.g. town hall spaces, events programmes in those spaces, learning environments, academic infrastructure) will be of growing importance. In the context of life sciences specifically they are also at the heart of creating that all important collaborative ecosystem that occupiers need for their own growth and acceleration. This is a crucial attribute for a science and innovation district and a key focus for the design of the spatial framework at CBC.

Enabling the inclusion of facilities that provide for these attributes is only viable within the emerging spatial framework model that includes Phase 4. Facilities are more modest and ad hoc in the Base case spatial framework design for Phase 2 and 3.

5.5 Aligned to the Entire ESG Agenda, not just the E

Occupiers are embracing the ESG agenda although they are a little behind the investor community who now consider ESG credentials an imperative. Focus is heavily on the E of ESG and there is no doubt that the environmental credentials of the modern workplace are a key consideration for both employer and employee as the awareness around the pressing need to act to protect our environment increases. These credentials also need to be more progressively and practically articulated to occupiers rather than the present profiling of accreditations/badges gained such as BREEAM, LEED, Well, NABERS. However, it is important not to forget the other elements of this agenda – so, for example, when thinking about workplace amenities what can be done to extend these into the wider community to support the S of ESG?

At the CBC the spatial framework which includes the Phase 4 expansion land shows enhanced ESG Alignment which allows greater focus on public realm, green spaces, community uses, integration of sustainable transport networks. The attraction of the campus increases, retention of staff is expected to increase, physical and mental wellbeing will be enhanced. Additionally, the greater clustering of likeminded research sector occupiers, in one location, reduces trips outside the campus to travel elsewhere in Cambridge.

5.6 Technology and Data Rich

Whilst not advocating technology for technologies sake, the adoption of SMART building technology in a coherent masterplan will become hugely important. In a world of greater scrutiny from business leaders around the real estate decision, occupancy data will enable better informed real estate decision making but SMART technology can also support the more efficient use of resources (supporting ESG) and / or the curation and active management of the workplace or estate level experience.

At the CBC the Emerging spatial framework, including Phase 4 expansion land, allows for an additional 30% capacity in potential energy centre space, data, technology, and infrastructure installations.

5.7 Creating a Place for Scalability

In attracting innovative occupiers there is a need for sites to better accommodate dynamic growth trajectories. So, workplaces will need to provide for small start-ups and scale up companies, right through to more established players and provide an over-arching environment that accommodates all. This will require managed spaces, turn-key solutions, outsourced labs, through to large scale laboratory and office space.

The Emerging Spatial framework model creates substantial commercial scalability at the CBC. An extra 2.345 m sq. ft of commercial space can be accommodated. The CBC will no longer experience the limitations of commercial research space provision from 2031, as currently forecast.

Greater levels of venture capital investment, burgeoning occupier demand and our supported projections for growth of the Cambridge market, indicate a need for capacity. Forecast commercial research take up throughout the time scale to 2050 indicates that the inclusion of Phase 4 is a crucial component. It may be decisive for some occupiers who consider the project in the late 2030's and need to be in an environment which can still, from that point onwards, accommodate their expansion and growth.

6. Spatial Framework Design Priorities

The role of Life Science quarters has evolved considerably since the establishment of CBC over 20 years ago and the rise of the value of the Innovation Hub. New and progressive settings include buildings at an increasingly human scale, development which considers transport impact and accessibility, focusses on engaging environments with both relaxing green spaces and enlivening amenities. Globally, dynamic innovation districts in Boston, San Diego, and San Francisco, carefully curate a business ecosystem through the provision of different types of business space which all interact. The UK market is learning from these exemplars the qualities needed to achieve success and attract new investment and occupier interest.

As the CBC has expanded, it has added essential infrastructure, but there remains a need to develop it as an integrated and cohesive quarter to continue to attract innovation. This will require careful curation of the existing and future sites, to unlock the potential for the scheme.

6.1 Gap Analysis – Key ingredients

Based on US market exemplars, an established life sciences ecosystem would have several key attributes including:

- **Academic excellence** - a university campus aligned with the sector delivering talent.
- **Research institute/s** - sector relevant
- **Occupiers** - in sector and at every stage of the life cycle- start-ups through scale up companies to big pharma and across all science, tech, and innovation sectors
- **Transport** - a diverse network for transport by public networks and private travel
- **Hospitality and service** - this will range from food and beverage to large scale hotel accommodation
- **Collaboration spaces** - internal and external. This would include a significant conference/auditorium facility. 500 people plus. External spaces for meet/greet/collaborate as well a relaxing green space
- **Wellness** - gym/spa/wellness facilities- for physical and mental wellbeing
- **Infrastructure** - demonstration that the Campus is robust and future proofed.
- **Community** - an integrated campus where individuals can work, play, and live creates success and sustainability. Those locations where residential mixes with commercial and other health and research uses deliver an enhanced environment and overall performance.
- **Capital** - a presence of the investor parties integral to the growth of business on the campus
- **Masterplan** - a masterplan which shows cohesion and capability to accommodate growth over a 15–20-year timeframe.

The best example of a mature life sciences ecosystem is the Kendall Square/MIT campus in Boston/Cambridge US. This is a mature ecosystem which derives value from the integration of all of the above attributes and is considered to be the World leading life sciences ecosystem.

6.2 Gap Analysis Performance – The Cambridge Biomedical Campus – what are the missing ingredients

Knight Frank consider that the CBC has performed in many areas and can align with the expectations of an exemplar life science focussed scheme but, to realise it's future potential and remain internationally competitive, there is the need to add missing ingredients if the project is to attract the right type of future occupier demand.

For CBC to compete and achieve longevity a more comprehensive range of facilities and amenities is required to support commercial, research and clinical uses. These facilities and services are required to attract and retain the best talent in a sustainable environment. Their provision is currently either missing or provided very piecemeal on the campus currently. In briefing Hawkins Brown about the Emerging Spatial Framework design these uses were discussed and proposed for inclusion:

- Retail and Food and beverage facilities- diversity of offer, distributed across campus
- Hotel/hospitality facilities- ideally a diverse offer
- Bespoke conference facilities- 500 + delegates
- Wellness/health and fitness facilities- gym/spa/medical/leisure
- Community facilities- to demonstrate the connection between local community and CBC
- Child care- crèche/nursery facilities
- Energy/power- to demonstrate resilience and longevity
- Service- concierge- a service offer which supports companies/employees based there
- Smart building environment- to demonstrate Environmental accountability
- Residential accommodation

Those areas which require specific consideration include:

- **Transport** - To date CBC has relied on walking, bike, private car travel plus local bus routes for transport. The completion of the new train station will add diversity and choice. The emerging spatial framework designed by Hawkins Brown also creates enhanced walkability. If the scheme design integrates a greater range of uses, the campus will also become a 24-hour community, with live- work- play activities. Currently, aside from clinical residents there is a focus on work (health/ research and commercial). Scale is needed to deliver this range of uses and achieve viability.

Examples in the US in Boston where new submarkets have been established have required speculative investment in transport networks by Local Government, to act as a catalyst for the creation of new developments. An example of this is the DevCo West development at Cambridge Crossing, Morgan Avenue, Boston where a new T line/metro connection was required to supply a new development masterplan on 43 acres delivering 2.1 m sq ft science/tech, 2.4m residential, 100,000 sq. ft. retail and 11 acres of open space, the whole accessed from 2 MBTA stops. Commercial occupiers attracted to the project since 2016 include Sanofi who prelet a 500,000 sq. ft laboratory building linked to 400,000 office HQ, Bristol Myers Squibb who prelet a 350,000 sq. ft lab/office, and Philips who acquired a 150,000 sq. ft. HQ.

- **Hospitality/hotel, conference wellness, leisure services** - these services deliver facilities to the occupier necessary for the performance and vibrancy of a successful campus. As corporate occupier numbers increase on the Campus, demands for hotel accommodation will increase to accommodate overnight visitors and to provide meeting and collaborations spaces.

By spatially arranging ancillary uses in a variety of positions across the campus, combined with delivering greater scale and range/choice, the CBC becomes a more attractive, exemplar scheme closely matching US projects. It will also create an environment which is more walkable, sustainable, and better than other parks across the city enabling CBC to retain its status. This in turn will attract a greater level of occupational demand which will accelerate growth in this optimum research focussed location.

The current and slightly densified spatial framework model of Phase 2 and 3 designed by Hawkins Brown does provide for some range and choice but in modest quantum and in ad hoc provision. With a 110% increase in commercial floorspace in the emerging spatial framework (2.15million sq. ft vs 4.495 million sq. ft) there will be demand a greater provision of ancillary facilities.

Of the two design approaches proposed by Hawkins Brown, only the Emerging spatial framework model approach delivers the placemaking, breadth of services, scale and attributes needed for a quality environment and for longer-term deliverability at CBC.

7. Take Up Model for the CBC – Future Demand Forecast for the CBC

Since Q1 2021, levels of latent unsatisfied occupier demand for Cambridge have remained constant.

Knight Frank Research have forecast that take up and prelet commitments, in Cambridge, by the end of 2022, will reach 450,000 sq. ft NIA for office and laboratory space combined.

Knight Frank future take-up forecasts propose the following:

Take up in 2023 will be 660,000 sq. ft for greater Cambridge. Knight Frank forecast that a considerable volume of this will be research/laboratory focussed space which is in the shortest supply and most highly demanded.

Take up for the next 10 years will grow annually by 10-15% per annum.

After 2033 take up across Cambridge will level off and from that point equate to 1.32m sq. ft per annum across Greater Cambridge as a whole.

How much will be attracted to CBC?

For the next 24 months (2023 and 2024) Knight Frank forecast that 30% of all Cambridge take up can be attracted to the CBC due to the shortage of laboratory space and in line with the percentage of space accommodated to date.

Across Cambridge, overall volumes of space to be accommodated will increase and hence from 2025 this percentage of take up is adjusted to 20% of the take up from 2025 up to and including 2033. Take up is then adjusted to 10-15% of all take up in the city when overall annual take up volumes reach over 1m sq. ft per annum across the city. The unique nature of CBC remains an important factor in attracting commercial research and laboratory demand and these figures are considered modest.

This results in forecast commercial take up averaging 290,000 sq. ft over the next 10 years and then levelling to 250,000 sq. ft per annum over the following 10 years.

Additionally, potential Research Institute demand will add another layer of take up which the Campus will want to satisfy. The uses which provide amenity and additional facilities on the Campus have not been included in the above forecasts.

8. How will demand be accommodated at the CBC?

Hawkins Brown Architects have devised 2 spatial framework designs for CBC (Appendix 2). The first considers the capacity for the current design for Phase 2 and 3. It adds some densification on sites within the CBC which can be released for development without impacting the clinical needs or phases 2 and 3 directly.

Each of the spatial framework concepts provide commercial space which can absorb the forecast demand as follows:

Base-line capacity in Spatial Framework for Phases 2 and 3:

Total commercial floor area: 2,150,000 sq. ft.

On the basis of projected commercial take up this scheme will have capacity up until 2029 against forecast annual take up rates.

Baseline spatial framework which incorporates densification:

Total commercial floor area 2.495m sq. ft

This extends take up commercially until 2031.

The fact that the CBC will run out of space within 10 years will be a concern to larger scale occupiers who themselves may wish to expand. There is evidence that scale up companies grown very quickly and in a short timeframe can double or treble in size. Ahead of the capacity running out, commercial occupiers may be put off committing, if expansion isn't possible.

The Emerging spatial Framework with enhanced amenities and facilities:

The total Commercial floor area is increased to 4.495m sq. ft extending the longevity of the CBC.

This will maintain its ability to accommodate occupiers, remain globally competitive, leverage the unique adjacencies already on the campus and deliver a better quality of environment as viability enables a wider range of amenity and service provision.

Knight Frank conclude that extending the longevity of the Campus is critical for its longer-term success.

The emerging Spatial Framework including the Phase 4 land is the only design approach able to achieve this.

This emerging design also creates an environment which is more closely aligned to occupiers' requirements in terms of the provision of placemaking, collaboration spaces, provision of food and beverage, hotel and conference facilities, leisure, residential and other community and infrastructure solutions.

9. The Economic Model and the Delivery Model

The CBC Emerging spatial framework design provides significant enhanced revenue and pre-financing cashflows as well as increased site infrastructure and place-making costs.

This design scenario also demonstrates sufficient value enhancement to provide for the required site infrastructure improvements. This makes the Campus more competitive and enables it to build on its unique reputation for research and collaboration.

Value enhancement is driven by a greater amount of commercial space and enhanced amenities expected resulting from the CBC Emerging Spatial Framework solution.

Knight Frank has considered the possible structures which will bring together the landowners and stakeholders at the CBC. There are many market examples where different landowners work together to achieve a superior design collectively.

10. Conclusion

The case for the growth and expansion is clear. If the current campus runs out of space in 2029 or 2031 it will be a loss to the Cambridge Life Sciences sector and a waste of potential inherent in the research, academic and clinical uses on the CBC.

The Life Sciences sector is in growth mode. Venture Capital investment is driving occupier expansion and active unsatisfied commercial occupier demand is creating a compelling case for expansion at the CBC given its unique attributes. It is a unique campus in Cambridge, the UK and has an international reputation to leverage, which can compete globally given its attributes and collaborative reputation.

At the CBC there is the opportunity to create a world leading Life Sciences campus. Several of the key ingredients already exist. Knight Frank has demonstrated through their knowledge and experience of national and international science and business park environments that environment, amenity, scalability, and deliverability are crucial.

Hawkins Brown architects have devised two spatial framework designs. The base line and an emerging spatial framework version both deliver commercial space, but the baseline will not deliver the same quality of campus and will run out of capacity in 2029, or 2031 at best.

Conversely the emerging spatial framework version can extend longevity by providing resilience by more closely fulfilling the CBC Vision 2050. Of significance is the fact that the emerging version enables the development of facilities and addresses placemaking requirements crucial for a science and innovation scheme. F+B, hotel, conference, wellness, and leisure and key worker residential facilities are 100% greater in the emerging spatial framework.

Knight Frank endorse the creation of the emerging spatial framework design.

The economic model devised at this stage assumes the same rate of take up for base case and emerging spatial framework - in order to provide a level comparison. The emerging spatial design generates value which can be invested into the project to ensure the CBC remains a world class destination for science.

Appendix 1

Appendix I Forecast Commercial take up in Cambridge and the percentage attracted to the CBC
(Source: Knight Frank Offices and Life Sciences)

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Hawkins Brown Spatial Framework Design

Year	Forecast Annual Take-up sq. ft NIA	Percentage of Total Attracted to CBC	Gross Take-up @80:20 (sq. ft)	10-year Average from 2023
2022				
2023	660,000	30%	247,500	
2024	726,000	30%	272,250	291,480
2025	798,600	20%	199,650	Av Take-up to 2033
2026	958,320	20%	239,580	
2027	1,149,984	20%	287,496	
2028	1,207,483	20%	301,871	
2029	1,267,857	20%	317,071	
2030	1,331,250	20%	332,813	
2031	1,397,813	20%	349,453	
2032	1,467,703	20%	366,926	
2033	1,321,000	15%	247,688	
2034	1,321,000	15%	247,688	247,688
2035	1,321,000	15%	247,688	Av Take-up to 2043
2036	1,321,000	15%	247,688	
2037	1,321,000	15%	247,688	
2038	1,321,000	15%	247,688	
2039	1,321,000	15%	247,688	

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2040	1,321,000	15%	247,688	
2041	1,321,000	15%	247,688	
2042	1,321,000	15%	247,688	
2043	1,321,000	15%	247,688	
2044	1,321,000	15%	260,724	260,724
2045	1,321,000	15%	260,724	Av Take-up to 2050
2046	1,321,000	15%	260,724	
2047	1,321,000	15%	260,724	
2048	1,321,000	15%	260,724	
2049	1,321,000	15%	260,724	
2050	1,321,000	15%	260,724	

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Appendix 2

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Commercial Capacity: Existing Campus (inc Phase 3)



2,150,000 sq ft

Total available commercial space within Local Plan Period (upto 2041)

750,000 sqft

Extant and Expired Permissions

1,400,000 sqft

Indicative capacity of S/CBC/E/2 (Phase 3 Land)



Commercial Capacity: Existing Campus (Densification and Phase 3)



2,495,000 sq ft

Total available commercial space within Local Plan Period (up to 2041)

750,000 sq ft

Extant and Expired Permissions

1,400,000 sq ft

Indicative capacity of S/CBC/E/2 (Phase 3 Land)

+ 240,000 sq ft

Densification of campus through revised transport strategy (Development of Staff Car Parks 5 and 6)

+ 105,000 sq ft

Densification of current consents (AZ and Plot 9)



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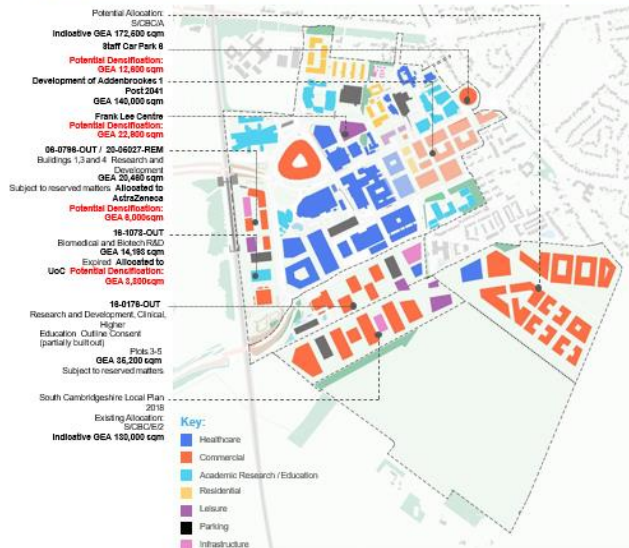
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Commercial Capacity: Emerging Spatial Framework Campus (Densification and Phase 3 and 4)



4,495,100 sq ft

Total available commercial space within Local Plan Period (upto 2041)

750,000 sqft

Extant and Expired Permissions

1,400,000 sqft

Indicative capacity of S/CBC/E/2 (Phase 3 Land)

+ 135,600 sqft

Densification of campus through revised transport strategy (Development of Staff Car Park 6)

+ 246,500 sqft

Densification of Frank Lee Centre (in addition to leisure)

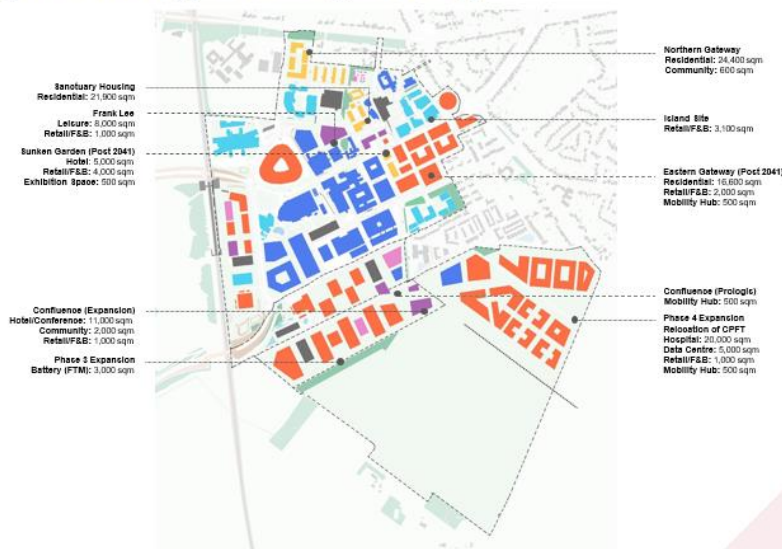
+ 107,000 sqft

Densification of current consents (AZ and Plot 9)

+ 1,856,000 sqft

Indicative capacity of S/CBC/A (Phase 4 Land)

Additional Uses: Emerging Spatial Framework Campus (including Phase 3 and 4)



1,416,400 sq ft

Additional Uses under the Holistic Campus

677,000 sqft

Residential

215,300 sqft

Relocation of CPFT hospital

177,600 sqft

2xHotel/Conference/Exhibition Space

130,200 sqft

Retail/F&B

86,100 sqft

Leisure

28,000 sqft

Community

53,800 sqft

Data Centre

32,300 sqft

Battery Storage (FTM)

16,100 sqft

3x Mobility Hubs\

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