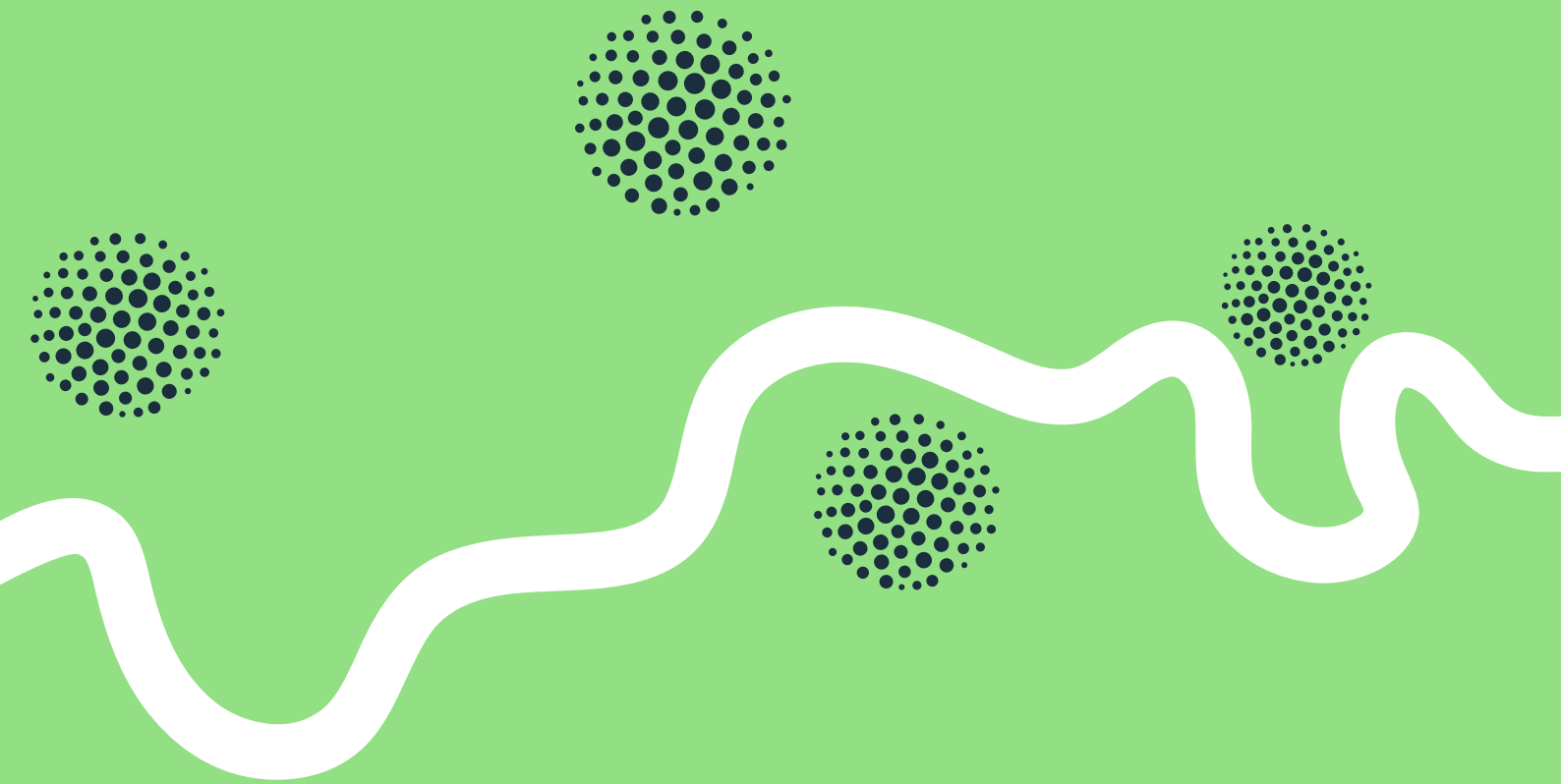


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The future success of the London life science market will require a collaborative and connected effort from the different stakeholders that make up the broader life science ecosystem. For this research we have spoken to representatives of the UK Government, Greater London Authority, London boroughs, leading developers of life science workspace and the wider built environment sector, occupiers, universities, research institutions, lawyers, and bodies that represent the life science sector. Thank you to those who have taken the time to be interviewed for this research:

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Foreword

London is a global city, renowned for its commerce, culture and technological innovation. With its famous history, architecture and cultural institutions, it attracts workers, visitors and investment from around the world.

As this report by the London Property Alliance makes clear, London has an opportunity to strengthen its position as an international leader in life science. The UK capital has the fundamental strengths to compete with cities like New York and Boston in incubating, growing and retaining major pharmaceutical and healthcare businesses – with huge benefits for the national and local economies, and scientific discovery.

Supported by the London Plan and policymakers across the city's boroughs, the property sector has stepped up to the challenge and is delivering world-class research and associated workspace to house these companies in neighbourhoods across the capital. Located in amenity-rich, urban areas, London's so-called 'Knowledge Clusters' are vibrant and highly productive ecosystems, helping London's life science sector to attract the talent it needs to grow and thrive.

The recommendations set out in this paper provide some fascinating ideas and opportunities to help our city fulfil its potential as a global hub for knowledge and innovation, while ensuring high-growth businesses also make their contribution to a net zero, sustainable city, with good jobs and tangible benefits for local communities.



Jules Pipe CBE
Deputy Mayor of London
Planning, Regeneration & Skills



Contents

| | |
|----|--------------------------|
| 10 | Executive Summary |
| 14 | Recommendations |
| 16 | Introduction |

| | |
|----|--|
| 20 | Section 1: Accommodating London's Potential |
| 22 | The Knowledge Quarter |
| 24 | Knowledge Quarter Fringe |
| 30 | White City |
| 34 | Whitechapel |
| 37 | Sutton |
| 38 | SC1 |
| 40 | Canary Wharf |
| 43 | Canada Water |

| | |
|----|----------------------------|
| 44 | Global Case Studies |
| 45 | New York City |
| 46 | Copenhagen |

| | |
|----|---|
| 48 | Section 2: Maximising London's Potential |
| 49 | 1. Vision-led & Connected |
| 55 | 2. Sustainability |
| 58 | 3. Investment |
| 61 | 4. Talent |

| | |
|----|-------------------|
| 62 | Conclusion |
| 64 | References |

Executive Summary

London has the potential to supercharge the UK's ambition to be the leading global hub for life science, which would be transformative for the health and wealth of the country.

The last decade has seen life science clusters emerge around London's world-leading universities and research institutions. However, the growth of the life science market in the capital has been constrained by a shortage of commercial lab space.

Over the last five years the built environment sector has responded to this opportunity. In London there is currently 2,100,000ft² of laboratory space under construction, an additional 600,000ft² with planning consent and a further 2,600,000ft² submitted for planning¹.

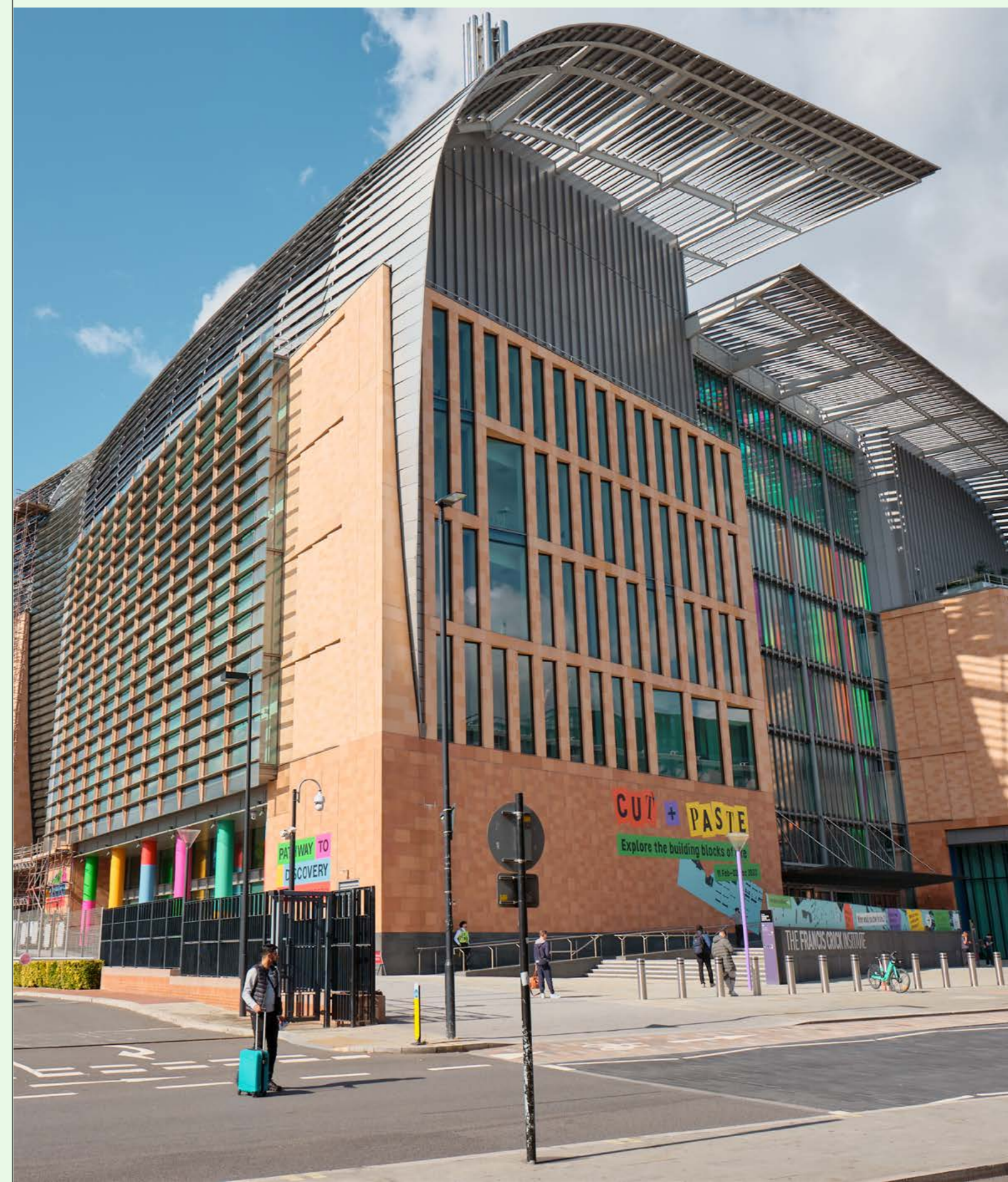
Life science clusters in the Knowledge Quarter (King's Cross and Euston) and White City are leading the way for London. SC1 (Southwark and Lambeth), Whitechapel, Sutton, Canary Wharf and Canada Water all with ambitious plans to grow as future clusters.

London's life science vision should be to develop each of these areas as independent yet connected life science ecosystems that collectively present the capital as a life science supercluster. For the London life science market to realise its potential, it needs a financially backed and strategically led approach to developing the capital's life science clusters.

The fundamentals behind London as a life science supercluster are strong:

- **Research.**
The 2021 Research Excellence Framework (REF) found that 84% of UK university research was either "world-leading" or "internationally excellent." Five of the UK's top ten universities in REF results are London-based².
- **Investment.**
In 2021 investment in UK life science reached its highest-ever level, at £4.5 billion³.
- **Spinouts.**
London's universities collectively produce a spinout company for every £35.5 million invested in research and development. This is comparable to Boston, Los Angeles and New York City, each of which has more and larger universities. These cities produce a spinout company for every £60.42 million, £42.6 million and £54.5 million invested, respectively⁴.
- **Big pharma.**
Representing a shift from 'hubs to hotspots', pharmaceutical companies are increasingly located within urban life science clusters to work closely with external researchers and clinicians in progressing their drug pipeline⁵. In the last five years, Novartis has taken space in White City, MSD/Merck in King's Cross, and GlaxoSmithKline (GSK) on New Oxford Street.

Image: The Francis Crick Institute



This report has identified a series of challenges which may impact the future growth of the London life science market:

• **Uncertainty of demand:**

The nascent nature of the London life science market makes quantifying volume of life science demand challenging – a factor preventing some investors from entering the market.

• **Incubator and grow-on space:**

An estimated 85% of the life science sector is made up of start-ups and SMEs. London doesn't have the volume of space to accommodate this part of the market, and traditional real estate models of longer FRI leases are not suited to these occupiers.

• **Investment:**

The Government is aware of the significant challenges facing the UK's spinout system, and has recently reviewed why the country is disproportionately weak at scale-ups in comparison to the US and China. Compared to the UK, US life science companies were 17 times more likely to raise funding rounds of more than £30 million in 2024.⁶

• **Talent:**

The life science sector is competing for a limited pool of skilled talent and a restricted pipeline of new talent⁷.

Image: Laboratory workers, pexels.com.

• **Planning:**

It is estimated that 56% of the life science development pipeline in the Golden Triangle (Oxford, Cambridge and London) is yet to secure planning due to delays in the system⁸.

• **Sustainability:**

Labs typically consume five times more energy for their equivalent floor area than office buildings due to specialised ventilation, lighting and cooling systems as well as lab equipment. As developers attempt to decarbonise their assets in line with net zero targets, new ways of making lab space more sustainable will be required.

• **Economic downturn:**

The wider economy may lead to short-term challenges for the life science market and reduced demand over the next 12 to 18 months.



Recommendations

London's life science market is in a strong position. It has the science-led R&D, is attracting investment, and is developing the space to accommodate the market's growth. For the London market to realise its potential, it needs to develop from an emerging market into a mature one.

This report presents the following recommendations for the key stakeholders who will be integral to the success of London's life science markets: UK Government, Greater London Authority (GLA), local government, universities, the built environment sector and life science occupiers.

1. Vision-led & Connected



London needs a vision and strategy for how it will develop into a globally renowned life science supercluster. This requires a city-led strategic approach that addresses the following factors:

- Greater connection and collaboration within and across different clusters.
- A strategic and holistic outlook to planning policy and decisions.
- A plan to effectively service and support the sector's growth.
- A pipeline of skilled lab technicians and support staff to work in and run the volume of buildings under construction. Training courses and internships should be in place so these roles can be filled by local residents.

2. Sustainability



London should be striving to lead the market in finding and scaling solutions to tackle the life science market's sustainability issues. This requires a collaborative approach between developers, universities and life science occupiers across clusters in trialing new approaches and products, sharing learnings, and scaling best practice.

3. Investment



The future growth of London's life science market is heavily reliant on the city's institutions incubating and growing the future life science start-ups and scale-ups that will require space in the coming years. This model requires the UK to have an improved spinout model and greater ability to raise late-stage growth funds by unlocking institutional investment.

4. Talent pipeline



London needs a strategy to address the talent shortage in the life science market. This includes an approach to ensuring London remains attractive for global talent while also developing locally based talent pipelines.



Image: Imperial College London, White City.

Introduction

In 2018 the London Property Alliance commissioned Future Places Studio to undertake research identifying and assessing London's Knowledge Clusters. These are geographical locations with the potential to attract the life science sector to cluster around anchor organisations such as research-intensive universities and hospitals. Across London, the study identified the Knowledge Quarter (King's Cross and Euston), White City, Whitechapel, and Sutton as emerging or future clusters.

At the heart of each of these locations is one or more leading research-intensive institutions:

- **Knowledge Quarter:**

The Francis Crick Institute, The Wellcome Trust, University College London (UCL) and University College London Hospital (UCLH)

- **White City:**

Imperial College London

- **Whitechapel:**

Queen Mary University and Barts Health NHS Trust

- **Sutton:**

Institute of Cancer Research and Royal Marsden Hospital

These areas and the organisations located there illustrate London's world-leading academic credentials, and represent an opportunity to build independent yet complementary life science ecosystems across the capital – ecosystems with the potential to revolutionise the UK's healthcare system, drive economic growth and create thousands of new jobs.

The research in 2018 identified that the traditional model of out-of-town science parks was at a point of change, driven by access to talent and an era of 'open innovation'. These factors, alongside the strength of London's universities, meant that London was emerging as a credible home for the life science sector, but its

potential was constrained by a lack of available laboratory space. Pharmaceutical giants such as Novartis and MSD/Merck were unable to find central London space, and the growing number of life science spinouts from UCL and Imperial College London were migrating to Oxford, Cambridge and elsewhere in pursuit of suitable space.

The lack of commercial lab space in 2018 presented an opportunity for the built environment sector along with a series of questions:

- **What is the level of demand and how long-term is it?**
- **What are the requirements for a 'wet lab', and how is it delivered?**
- **Will the uplift in delivery cost be recouped?**
- **Is the local planning system sufficiently informed to enable the process of delivering labs?**

Fast forward five years, and the life science picture in London has evolved immensely.

Across London there is currently 2,100,000ft² of laboratory space under construction, an additional 600,000ft² with planning consent and a further 2,600,000ft² submitted for planning⁹.

The Knowledge Quarter and White City have strengthened their position as life science hotspots, while new locations such as SC1 and Docklands (Canary Wharf and Canada Water) have emerged. The rental premium for fitted lab space when compared to conventional office space is, on average, 70% higher across Cambridge, Oxford and London¹⁰.

Image: Coal Drops Yard, King's Cross.



“Over the last few years we have seen traditional office investor developers in London looking at how they can diversify their portfolio, and some have seen life science as a growth market and an opportunity to do this.”

Louise Ward, Partner, Charles Russell Speechlys LLP.



**Knowledge Clusters
(our definition)**

Geographical locations which attract organisations from the knowledge economy; a sector based on knowledge intensive activities, creating a greater reliance on intellectual capital rather than physical inputs. Normally centred around education, science, healthcare, technology and creative services.

“The growth of UK innovation-based sectors such as life science is predicated on the success of our spin-out eco-system.”

Department for Business and Trade.

Image above: Tribeca Development, King’s Cross.

Despite the promise of the last five years, the nascent nature of the London life science market makes quantifying the volume of life science demand challenging – a factor preventing some investors from entering the market. A 2021 demand study from MedCity calculated over 500,000ft² of demand. It is unknown what that number is today, and some are predicting reduced demand over the next 12 to 18 months due to the wider economic downturn. For this research the Department for Business and Trade has called on the London real estate sector to undertake further demand studies to establish short and longer-term demand requirements.

The UK Government has described life science as “one of the great drivers of growth in the twenty-first century.” In 2023 the Government announced a £650 million “war chest to fire up the UK’s life science sector,” and in summer 2023 the UK rejoined Horizon Europe, providing UK scientists with access to the world’s largest research collaboration programme – a move

many consider vital to the future of UK life science.

The potential of the UK life science market is clear. 2021 data showed an annual turnover of £89 billion, with 270,000 people employed across 6,630 businesses. Employment growth for the sector in the UK is forecasted at 8% compared to total employment growth of 3.5%¹¹. In a survey of 30 members of the Association of the British Pharmaceutical Industry (ABPI), 80% of respondents agreed that the UK has the potential to become the leading global hub for life science¹².

London has a leading role to play in the UK life science market realising its potential on a global scale. Over the last five years, London’s life science foundations have been strengthened with the development of its Knowledge Clusters. The focus now is how London can supercharge this offer.



Section 1. Accommodating London's Potential

“There is nowhere else in Europe that has the same concentration of leading universities and specialist research institutions, specialist hospitals, talent and access to finance as London. These factors make London a globally attractive destination for life science.”

Dr Angela Kukula, CEO of MedCity and Director of Life Sciences for London & Partners.

London's world-class universities are the foundation for the city's growth as a life science ecosystem. London's universities collectively produce a spinout company for every £35.5 million invested in research and development. This is comparable to Boston, Los Angeles or New York City, each of which has more and larger universities. These cities produce a spinout company for every £60.42 million, £42.6 million and £54.5 million invested, respectively¹³.

Over the last 10 to 20 years, the relationship between 'town and gown' has evolved to enable London's universities to sit at the heart of an innovation-led ecosystem. The traditional design of London's universities was defined by a hard-edge perimeter, single-use buildings and faculties treated as separate growth opportunities. Over the last 20 years, however, more emphasis has been placed on joining up buildings, shifting towards mixed-use buildings

and improving integration with local surrounds. The drivers behind this change are the dual objective of creating places that attract the best talent (i.e. student and faculty hires) and meeting needs to generate a greater commercial return.

This spatial and commercial evolution of universities has coincided with a significant change in operating model and footprint from the pharmaceutical sector. Big pharma has become leaner and more focused in the last 15 years. A flurry of mergers and acquisitions in the late 1990s and early 2000s led to bloated firms with sites scattered across the globe and declining R&D productivity. The years that followed saw these major firms focus on a few areas of research, and they consolidated their physical footprint as a result, moving into key innovation clusters. Defined as a shift from 'hubs to hotspots', pharmaceutical companies have increasingly located themselves within urban life science clusters across the globe such as Boston, San Francisco and, more recently, London to enable big pharma scientists to work closely with external researchers and clinicians in progressing their drug pipeline¹⁴.

Increased opportunities for collaboration between research and big pharma have been fueled by the rise of 'open innovation', a collaborative approach to R&D that represents a move away from the closed traditional model of product development. Within this environment of knowledge sharing, collaboration and information flow, humans thrive, start-ups are born, and clusters of organisations have emerged.

Defined as a shift from 'hubs to hotspots', pharmaceutical companies have increasingly located themselves within urban life science clusters across the globe.

Image opposite: The Francis Crick Institute, King's Cross.
Image below: Coal Drops Yard, King's Cross.



London's Knowledge Clusters



“Life science is a priority economic sector in London with a key role in driving growth and productivity, and London has a prime ecosystem to support the continued development of the sector.”

Abi Taylor, Principal Policy Officer – Economic Strategy and Innovation, Greater London Authority.

The Knowledge Quarter

“The Knowledge Quarter has firmly established itself as the preeminent location for life science in London.”

Charles Walford, Property Director, Stanhope.

In summary...

- The Knowledge Quarter (KQ) currently has 3,688,000ft² of sites with potential lab space under development.
- MSD/Merck is locating its UK headquarters and Discovery Centre in Belgrove House on Euston Road, where it will be occupying 220,000ft².
- The London BioScience Innovation Centre is developing a new 37,000ft² innovation centre at The Apex in the Tribeca development.
- British Land has successfully converted 55,000ft² of office stock on Regent’s Place into wet labs.
- Oxford Properties is delivering 200,000 ft² of lab space in Victoria House.
- Kadans is delivering over 200,000 ft² of lab space off York Way.
- Stanhope & Mitsui Fudosan are delivering the British Library extension to include 600,000 ft² of lab enabled space.
- Google Deepmind, at the forefront of the AI / life science convergence, occupies three buildings on the Related Argent estate.
- Over 2,070 high-growth companies are located in the KQ.



With its one-mile radius, the KQ has established itself as one of Europe’s leading innovation districts. The area has strong foundations from which to build: unrivalled transport infrastructure, world-leading anchor institutions, globally renowned companies, high-quality public realm, and a 24/7 culture of food and beverage.

The area’s central London location, which straddles both the London Borough of Camden and Islington, has seen the area rise in

prominence, with corporate anchors such as Google, Google Deepmind and Meta all located in the KQ.

The area’s central location has also presented challenges, with opportunities to expand the cluster constrained by access to space, the presence of heritage buildings and conservation areas, planning considerations, and the tangle of transport infrastructure above and below ground. Despite the complexities of the location, however, new projects are under way, and there is potential for more to follow.

“The strength of the Knowledge Quarter is how varied it is across life science, AI, tech, arts and the creative digital sector and the unique mix of public and private sector bodies. In addition, you have these incredible universities, which are producing over 30,000 graduates a year. It is a very special and unique place.”

Cllr Danny Beales, Cabinet Member for New Homes, Jobs and Community Investment, London Borough of Camden.

Image opposite: The Francis Crick Institute, King’s Cross.
Image above: Regent’s Place, Euston.



Regent's Place, a 13-acre mixed-use campus owned and managed by British Land for nearly 40 years is now home to life science tenants such as Relation Therapeutics, which has moved 40 scientists onto the campus. "We are running a clinical study with ULCH, who are across the road. We get human bone samples from the hospital, and we don't even need a courier, as we can walk everything from the hospital into our labs," says Rosie Rodriguez, Senior Vice President Growth, Relation Therapeutics.

In the coming months and years, further life science tenants are expected to locate in Regent's Place, with a life science and innovation pipeline of 1,500,000ft² across the campus, which includes proposals to transform the Euston Tower to create a world-leading science, technology and innovation building.

The opportunity to collaborate with leading institutions in the area is one of the key reasons that MSD/Merck is locating its new HQ and Discovery Centre in the cluster. MSD/Merck's new headquarters in Belgrove House are due to complete in 2027. In addition a three-year agreement between MSD/Merck and The Crick has been agreed for construction of the Skylab, a 10,000ft² lab that will sit on the roof of The

Crick and house an interdisciplinary team of discovery scientists.

Next door to The Crick, the British Library extension project, delivered by Stanhope & Mitsui Fudosan, has moved forward despite the complexities of navigating the transport infrastructure running below the site. When complete, the project will deliver around 600,000ft² of laboratory space alongside expansion space for the British Library for learning, exhibitions and public use, plus a UK headquarters for the Alan Turing Institute, the national centre for data science research.

These additional functions demonstrate that the KQ is more than just a life science cluster and that its rich collection of occupiers from the world of art, culture, creativity and music add important diversity and difference to the area. CEO of the Knowledge Quarter, Jodie Eastwood, is keen to reinforce this point: "We don't want this area to be just a home for life science, and it's important that the Knowledge Quarter retains its rich diversity of organisations while the life science market grows."

The British Library project is also illustrative

of how the KQ is evolving to be more open and inclusive to local communities. When the original British Library was delivered in 1997, it was conceived as an academic research facility, not an open and accessible public building. This original intent is clear in its current fortress-like design; however, the new library extension will reverse this approach. An entirely accessible ground floor that gives both east and west sides of the building equal entrances will ensure that it no longer turns its back on local estates; instead, residents and visitors will be able to walk through the building and come out the other side.

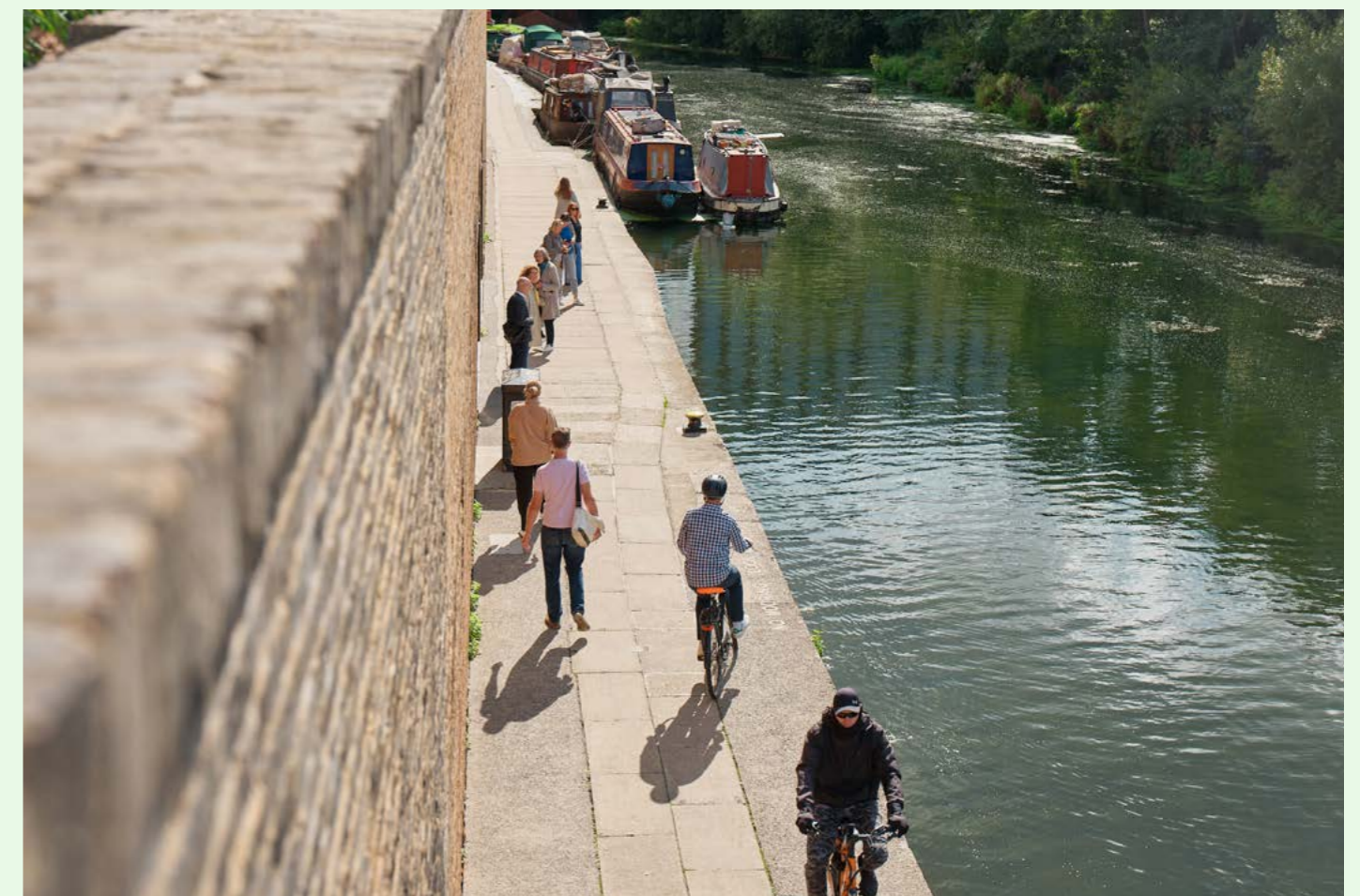
An open and accessible ground floor is a key planning requirement of Camden Council as it strives to ensure that the growing life science cluster drives inclusive economic growth, particularly within the neighbouring residential communities.

Merck/MSD's Belgrove House, delivered by Precis Advisory, will bring the public from the Underground up into the building with a new entrance to King's Cross St Pancras

Underground station delivered as part of the scheme.

"Given the profile of the site, the development had to be special and make a contribution to the area. The ground floor is accessible to the public and contains classrooms and exhibition spaces. From the outside of the building, you will have visibility of the labs and understand that something exciting is happening in the buildings" says Faaiza A. Lalji, Director of Planning and Development, Precis Advisory.

In addition to the growing life science market, the public realm and amenities in the KQ have been further enhanced by the development of the King's Cross estate by the King's Cross Central Limited Partnership to include the shopping and dining hotspot Coal Drops Yard, which opened in 2018. The Coal Drops development has also improved connection through to the Regent's Canal, which takes pedestrians north to Camden, past the Tribeca development from Reef Group, which will include a new 37,000ft² innovation centre for the London BioScience Innovation Centre.





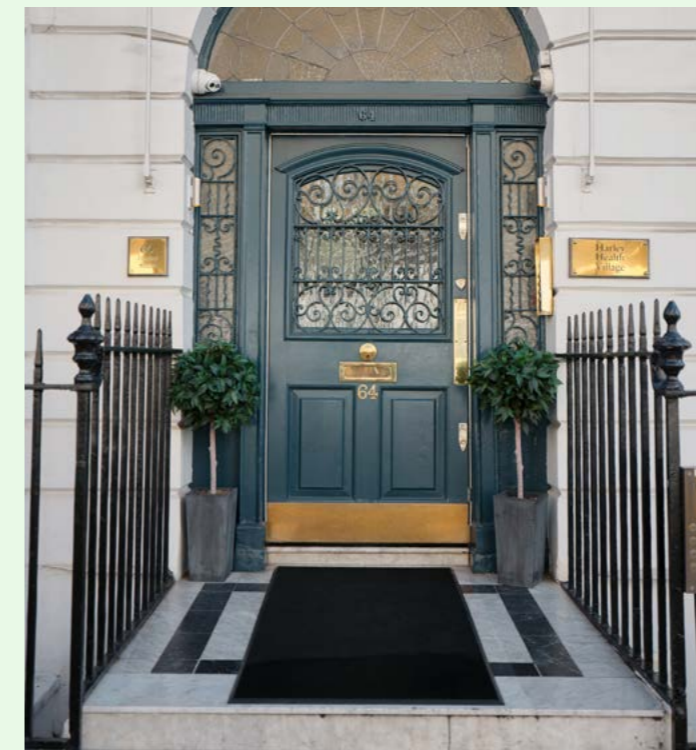
Knowledge Quarter Fringe

Harley Street

The KQ has strengthened its hand over the last five years, and we can expect to see that progress continue as cluster occupants develop further collaborations across the drug discovery, diagnostics, data, AI and health tech sectors. With this advancement in mind, the Harley Street area to the west of the Knowledge Quarter adds an additional layer of narrative to the cluster. As one of London's Great Estates, Harley Street has been curated as a medical area for a century by the Howard de Walden Estate. That history has a new chapter as heritage buildings are adapted to accommodate an evolution into health tech, with Portland Place acting as a new hub for the sector.

“We think we can offer a meeting point for research, healthcare and technology in Harley Street. It won't be lab space in the traditional sense; instead the focus will be more on digital health, AI, and how this interacts with access to hospitals and clinics in the area.”

Andrea Merrington, Director of Planning and Engagement, Howard de Walden Estate.



Harley Street in numbers (2022):

2m^{ft}²

of medical floor area, which is a 9% increase from 2018

3.8k

consultants

£5^{bn}

per annum contributed to UK economy

30k

people in full-time employment in the area

Images: Harley Street.

White City

“White City has demonstrated that if you build specialist labs in an area where capital is invested into start-ups and scale-ups, then you can build a life science tenant base.”

John Anderson, Chief Investment Officer, Imperial College London.

In summary...

- White City features between 300,000ft² and 350,000ft² of rented lab space, making it the largest occupied cluster in London.
- Pharmaceutical giant Novartis has located itself in the area alongside Autolus, the UK’s first life science unicorn.

- Three of the top 30 UK-based high-growth life science companies are located in White City: Quell Therapeutics, MiNA Therapeutics and Synthace.
- The area is home to 170 registered life science businesses employing around 5,000 people.



The evolution of White City over the last 15 years is one of London’s great stories of renewal and regeneration.

When the BBC announced in 2009 that it was leaving its Television Centre home, there was concern about what that would mean for this small pocket of West London. Fast forward to today, and White City is abuzz with people, passion and innovation.

Due to the presence of Imperial College London, life science has played a prominent role in the redevelopment of White City. Clustered in and around Imperial College London’s White City campus are Hammersmith Hospital, the Molecular Sciences Research Hub and 190,000ft² lab building the I-Hub.

Notable life science occupiers that have located to White City over the last five years include Novartis, which moved its UK headquarters from Frimley in Surrey; and Autolus Therapeutics, a clinical stage biopharmaceutical spinout from UCL that announced a £250 million investment in 2021 and is now located in White City Place. In addition, 3 of the UK’s top 30 UK-based high-growth life science companies are located in White City: Quell Therapeutics, MiNA Therapeutics and Synthace.

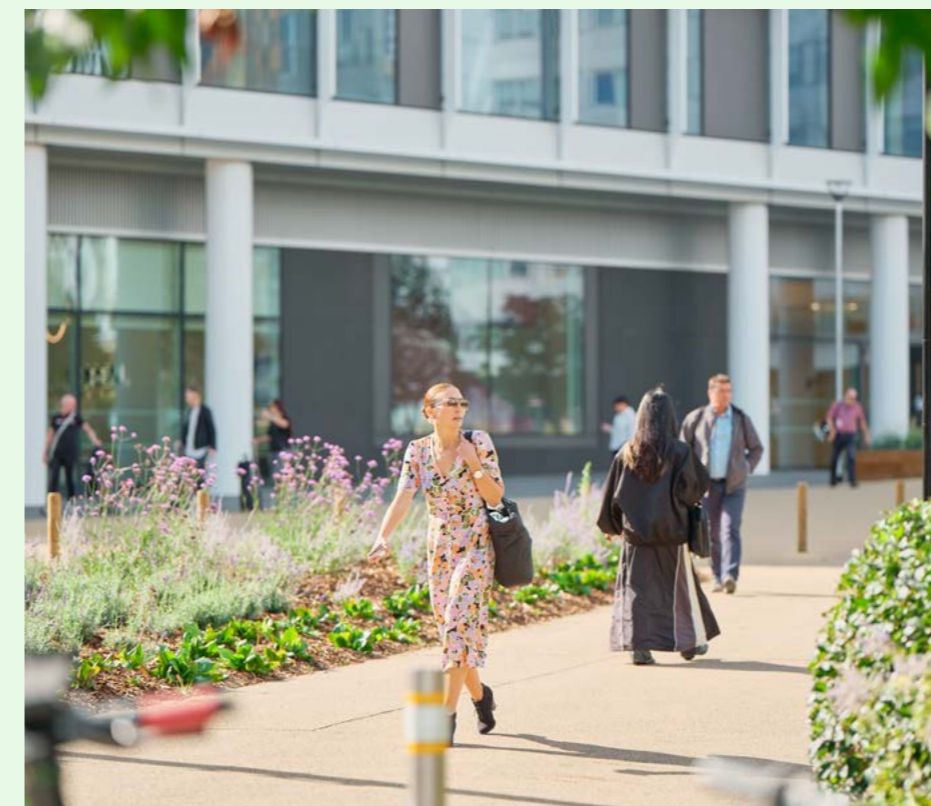


Image above: White City Place, White City.
Image opposite: White City Place, White City.
Image left: Imperial College London, White City.



In total it is estimated that there is between 300,000ft² and 350,000ft² of rented lab space in White City, which makes it London's largest occupied cluster.

Space has been delivered to accommodate life science in a relatively short time frame through a number of methods. Imperial College London has built dedicated space in the I-Hub as part of its White City Campus, Stanhope & partners has retrofitted previous BBC office space to accommodate labs, providing home for seven life science occupiers, and a partnership between Imperial College London and digital venture builder Blenheim Chalcot has seen modular labs delivered at Scale Space.

In addition to life science, White City has also seen growth in the ed-tech, financial services, and defence and security sectors. Additionally, French beauty giant L'Oreal has relocated its UK headquarters from Hammersmith Broadway to Gateway Central, a new building at White City Place. This new head office will see 1,200 staff relocate to White City and incorporate an academy to train 10,000 new hairdressers every year. L'Oreal joins other notable tenants in the area, including BBC Studios, ITV and the Royal College of Arts.



Image above: L'Oreal, White City.
Image opposite: St James Development, White City.
Image top: Scale Space, White City.



Whitechapel

“In five years, a life science campus will be up and running in Whitechapel, and we will have an exciting mix of commercial and academic activity going on.”

Sven Bunn, Life Science Programme Director, Barts Health NHS Trust / Queen Mary.

The anchor of the Whitechapel cluster in East London will be a life science campus delivered by the Department of Health and Social Care (DHSC), Queen Mary University of London (QMUL), and Barts Health NHS Trust.

In July 2018, Barts Health NHS Trust announced that an “East London life sciences campus had moved a step closer to reality” as Bart’s, the capital’s biggest NHS Trust, sold four surplus sites in Whitechapel to the DHSC. In the last five years, a combination of factors – including the Covid-19 pandemic, planning challenges and local mayoral elections – has resulted in delays to the scheme.

A planning application for the Whitechapel development was submitted in December 2021, and following feedback from the planning team, an addendum to the application was submitted in September 2023. The plans include a mixture of office, laboratory and amenity space, together with public realm improvements. A planning decision is anticipated in early 2024, to be followed by a sale of the site to a developer later in 2024.

While the development of physical infrastructure has been delayed, the digital and programmatic assets of the area’s cluster have been strengthened. A precision medicine platform that brings together all of the hospital’s health care datasets, making them accessible for research, has been developed. An innovation partnership between Barts and QMUL focused on translation activities has been set up, and a new clinical research facility is being designed within the Royal London Hospital.

60

different languages spoken as Whitechapel hosts one of the most diverse populations ever to inhabit a single geographical area, with all ages, races and beliefs represented.

Image opposite: Royal London Hospital, Whitechapel.





Sutton

“Within the next decade we believe the London Cancer Hub will be a research district with global appeal.”

Daniel May, Director, Socius.

A geographical outlier compared to the other clusters researched in 2018, the South London site of Sutton, home to the London Cancer Hub, has experienced similar delays to the Whitechapel project.

The wider London Cancer Hub is a 26-hectare site that includes two world-leading institutions: the Institute of Cancer Research (ICR) and the Royal Marsden Hospital. In 2013, the London Borough of Sutton began conversations with both anchor institutions about the potential for building a life science campus. In 2015, a development framework was produced and endorsed by partners in 2016. Since 2016, the local authority has acquired land from Epsom and St Helier University Hospitals NHS Trust to bring forward the London Cancer Hub. A development partner for the site was first sought in 2019, a process which was temporarily put on hold in 2020/2021.

Over the last five years, the site has seen notable developments, including the opening of the Centre for Cancer Drug Discovery, the largest academic cancer drug discovery and development unit worldwide, and the Oak Cancer Centre, the Royal Marsden’s state-of-the-art research and treatment facility for inpatients and outpatients.

In 2021/2022, the London Borough of Sutton, in partnership with the ICR, launched the Innovation Gateway, a 9,000ft² refurbished building that includes wet and dry lab space. The building was a pilot project to test the site’s ability to attract life science start-ups to relocate to the area.

In 2023, the London Cancer Hub project benefited from £14 million of Levelling Up funding allocated to the London Borough of Sutton to improve services to the local Belmont Station, which will double the frequency of

trains, making access to the London Cancer Hub quicker and easier from central London.

In 2023, the London Borough of Sutton announced that Aviva and mixed-use developer Socius have been selected as preferred bidders to advance the development of the London Cancer Hub.

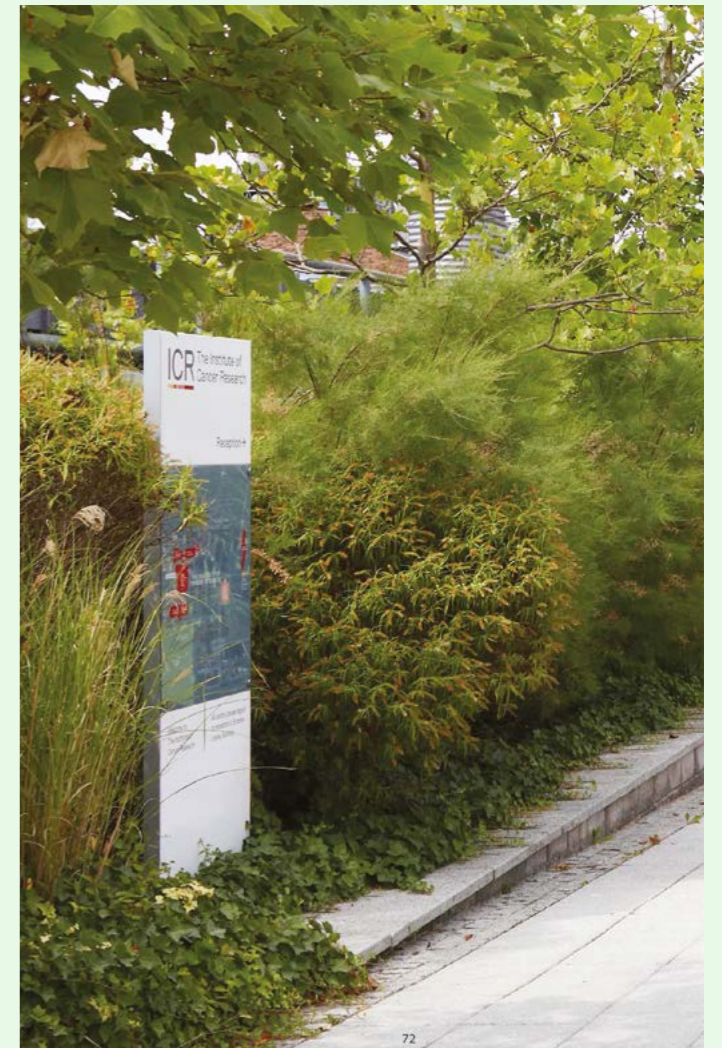


Image above and opposite: Institute of Cancer Research, Sutton.

SC1

“We’re so lucky to have great institutions on our doorstep, and with SC1 we’re focusing on inclusive growth that brings the benefits of new jobs and skills to the local population across both boroughs and beyond... And we’re looking closely at similar clusters in other parts of the city to make sure we learn from what they’ve done and build on – rather than compete with – what they’re doing.”

Cllr Claire Holland, Leader of Lambeth Council.

SC1 is a life science district in South Central London founded by King’s Health Partners, Guy’s & St Thomas’ Foundation, and Lambeth and Southwark councils. Within SC1, plans are being advanced to create significant new spaces for health and life science and build a world-recognised home for life science innovation.

Current and future features of the area’s life science offer include:

- Health Foundry: a 3,500ft² space for health start-ups run by Guy’s & St Thomas’ Foundation
- SC1 Innovation Hub: a 25,000ft² flexible space to meet the needs of SMEs and scaling companies
- Newcomen and Block 9 Extension (ready 2025): a King’s College London development delivering a life science incubator facility
- London Institute for Healthcare Engineering: a development located at King’s College London that will bring together world-class research and development expertise across academia, the NHS and MedTech companies
- Pears Maudsley Centre: modern inpatient, outpatient and crisis mental healthcare space alongside a start-of-the-art clinical research facility

- KCH Haematology: planning application for a new 32,000ft² haematology and blood sciences building
- Royal Street: a partnership between Guy’s & St Thomas’ Foundation and Stanhope to develop a 1,900,000ft² development at Royal Street has planning permission
- Snowfields Quarter: a 300,000ft² redevelopment of the Snowfields Quarter, currently in pre-planning, to provide a new life science hub



Image above: Royal Street Site, Stanhope.

“For the SC1 cluster to realise its potential, alongside new lab space, there is a requirement for additional collaborative, sustainable and attractive workspaces to support an eco-system of business functions. With over 1m sqft of flexible workspace in our development pipeline within the SC1 cluster, we are very excited about the long term future of Southwark and Lambeth as a leader in life sciences and innovation.”

Ross Sayers, Head of Development Management, Landsec.

Canary Wharf

“We have an opportunity in Canary Wharf to create large-scale, purpose-built life science facilities unlike anything else in London or the wider UK.”

Tom Venner, Chief Development Officer, Canary Wharf Group.

In the 1980s Canary Wharf was conceived as a location to deliver large-scale office buildings with floorplates for single tenants to meet the needs of financial service occupiers with trading functions and large departments. Its initial purpose was largely to support the City of London, which at the time was struggling to deliver the scale needed to meet the need. Forty years on and enabled by London’s transport connectivity, Canary Wharf may perform a similar function but this time to support the growth of London’s life science sector.

Across the Canary Wharf Estate, a number of life science and healthcare organisations are clustering, including Genomics England, Barts Health NHS Trust, Medicines and Healthcare Products Regulatory Agency, Medical Defence Union, General Pharmaceutical Council, and NHS Transformation. Such organisations provide the foundation from which a future cluster can evolve.

The area’s life science ambitions have been further advanced with Kadans, in partnership with Canary Wharf Group, securing planning approval from the London Borough of Tower Hamlets for the development of a 23-storey 823,000ft² tower on the North Quay site for commercial health and life science. The site is located adjacent to the Elizabeth line station at Canary Wharf, and follows on from the completion of a flexible 40,000ft² wet lab workspace at 20 Water Street.

Canary Wharf Group has also raised £400 million from The Qatar Investment Authority and the Canadian investor Brookfield to further support plans to reposition the area as a life science and residential hub.

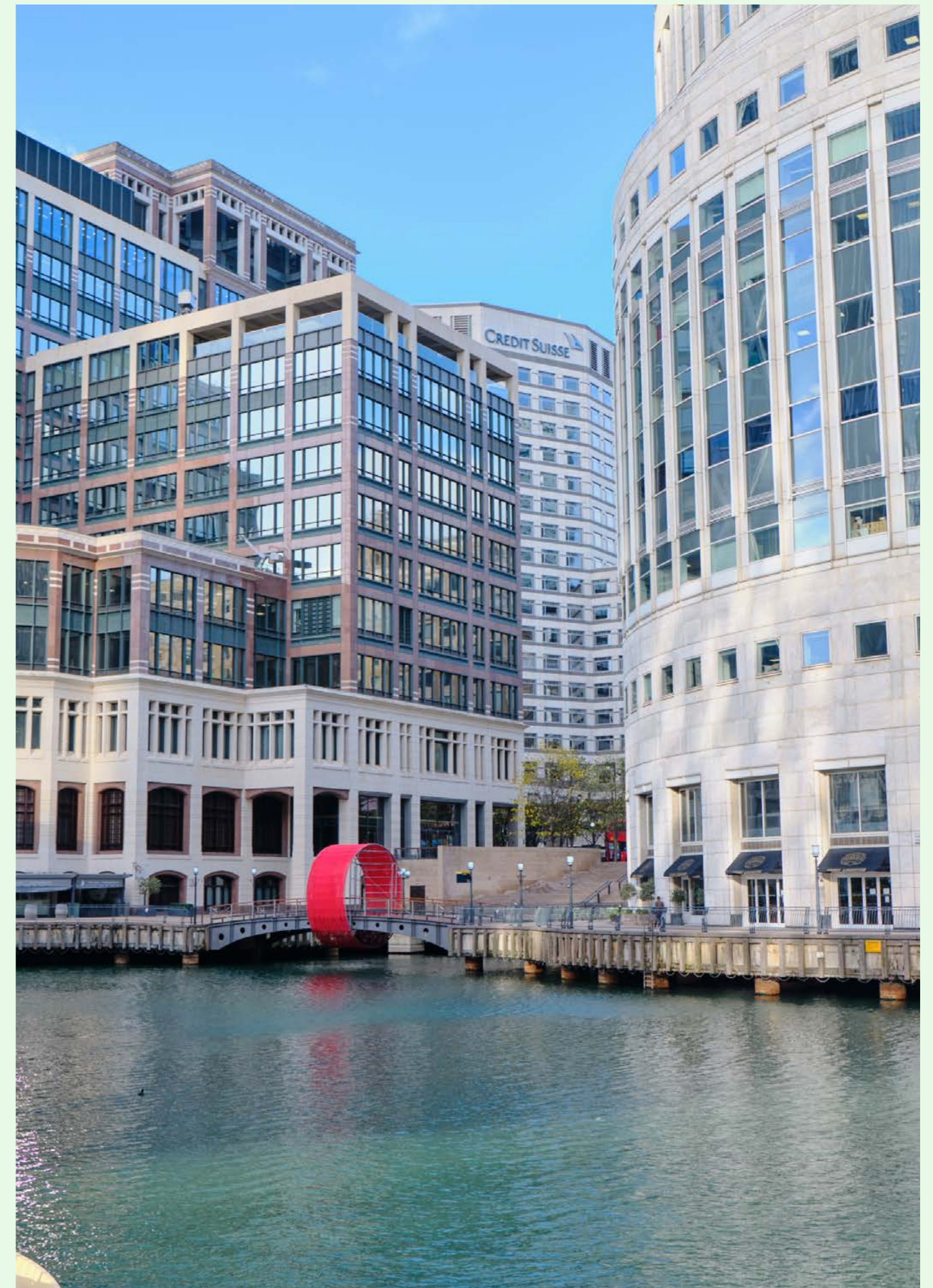


Image above: Canary Wharf.
Image opposite: Canary Wharf.



Canada Water

“Canada Water is an inspiring place for people and businesses alike. As a founding business in Canada Water’s Paper Yard, we’ve chosen a location which offers flexibility and scalability.”

Anna Andreou, CEO, Chemastery.

The emergence of life science-based developments in Canary Wharf and Canada Water is an interesting alternative to the ‘anchor’ model that has driven London’s life science growth to date.

Situated halfway between London’s urban centres, the City and Canary Wharf, Canada Water benefits from the dual offer of a central London location with leafy and green surrounds. At The Paper Yard, British Land has launched 33,000ft² of fitted and lab-enabled space which can be scaled and adapted to customers’ demand. The project is part of the wider 53-acre British Land Canada Water masterplan, which will deliver a new high street and town square, 3,000 new net zero carbon homes, 2,000,000ft² of workspace, and a new leisure centre.

Other locations in which life science has the potential to develop include Paddington, the home of Paddington Life Sciences a partnership group made up of partners including British Land, Derwent London, Imperial College London, Imperial College Health Partners and Imperial College Healthcare NHS Trust.

At the Queen Elizabeth Olympic Park UCL have opened UCL East the biggest development in UCL’s 200-year history which includes hi-tech, cross-disciplinary research labs.

Image opposite: Paper Yard, Canada Water.
Image left: Canada Water Dockside.



Global Case Studies

New York City

New York can offer London lessons on how to adopt a strategic approach to developing as a life science hotspot.

Following the economic crash in 2008/2009, the New York City Economic Development Corporation, concerned that New York was over-reliant on a small number of industries, commissioned a study into alternative sectors that could provide New York City with greater resilience. Life science was identified as a potential sector of interest, which resulted in further work in 2014 to identify what was needed to build out the sector.

The Economic Development Corporation established LifeSci NYC to deliver on a ten-point plan to grow a New York City-based life science sector. Central to the plan was \$500 million of city capital for life science construction and equipment, \$300 million of which was tax abatements. In addition, the plan addressed the need for incubators, attracting wider investment, talent programmes, spinout space and support for early-stage start-ups. The city also established a life science advisory council that included leaders from academic institutions, industry, ventures and non-profits.

In 2021, LifeSci NYC doubled its initiative to \$1 billion with the ambition to create 40,000 new jobs and establish New York City as the global leader in life science. The city currently has 3,500,000ft² of lab space, with a pipeline of a further 6,000,000ft² to be delivered by 2030. There are 500 life science R&D companies located in NYC, and the ambition of the city is to reach 1,000.

A key thematic area LifeSci NYC is working on is ensuring that the volume of lab space delivered is done in such a way that buildings cluster together. In addition, the organisation is working to build the life science talent pipeline in the city by exposing young people to a career in life science and expanding the city's life science internship programme.



Image: The Alexandria Center for Life Science.

£1bn

LifeSci NYC initiative in 2021

3.5m ft²

of lab space currently in New York City

6m ft²

of pipeline to be delivered by 2030

Copenhagen

Denmark is emerging as a European hotspot for life science, in part because of the country's Danish clinical trial ecosystem, which makes it quick and easy to complete clinical trials with human participants¹⁷.

The life science industry accounts for more than 50,000 jobs across the country and approximately 22% of Danish product export¹⁵.

Denmark's life science university research is ranked among the highest globally, especially that of Denmark's Technical University (DTU), one of the key occupiers in Greater Copenhagen¹⁶.

At the heart of Copenhagen's life science ecosystem is Copenhagen Science City, a partnership between the City of Copenhagen, the Capital Region of Denmark, the University of Copenhagen and the Danish Building & Property Agency.

To support Copenhagen's growth as a life science destination, the city has launched Copenhagen Life Science, an initiative to promote both the city's science industry and its livability. The initiative has been supported by the Danish government, which has invested 82 million Danish Kroner (\$11.7 million).

50k

jobs across Denmark in the life science sector

22%

of Danish product export from life sciences



Image above: Denmark Technical University (DTU).
Photographer: Adam Mørk, Hampus Berendtsen.
Image opposite: Copenhagen
Photographer: Astrid Maria Rasmussen.

Section 2. Maximising London's Potential

London's life science market is in a strong position. It has the science-led R&D, is attracting investment, and increasingly has the space to accommodate the market's growth. For the market to develop from an emerging market into a mature one, the next five years will be fundamental.

This research has identified four key themes that stakeholders – including UK Government, Greater London Authority (GLA), London boroughs, universities, the built environment sector and life science occupiers – should focus on to maximise London's potential.



Image: London, pexels.com.

1. Vision-led & Connected



What is London's life science vision, and who owns that vision? At present this is unclear.

London's current life science offer comprises several emerging clusters dotted across the capital. The longer-term strategy should be for London to develop each of these clusters as independent yet connected life science ecosystems that together present London as a life science superpower.

MedCity, funded by the GLA, plays an important strategic role in convening the London life science sector, stimulating cluster development and driving inward investment. However, London would benefit from a similar model to New York City, whereby a financially backed, city-led strategic approach drives the growth of the life science market.

Comparative to New York, London government has limiting factors including different powers and significantly less access to the volume of capital required to drive the growth of sectors such as life sciences.

For the London market to flourish, the capital needs a model where it can accommodate start-ups and SMEs, which constitute roughly 85% of the London life science sector, as they scale into larger occupants. This requires London to be able to offer a range of space, from incubator to grow-on through to buildings fully occupied by single tenants.

This model works effectively in mature markets such as Boston, but in a nascent market like London it is harder to achieve, with investors seeking to minimise risk by securing larger occupiers able to take higher volumes of space. In addition, running an incubator or grow-on space can be resource-intensive and operationally complex, with specialist skills needed. In New York a similar challenge has been addressed by the state, which has supported the delivery of incubator and grow-on space to strengthen the wider ecosystem.

There is an opportunity for the UK Government to financially support the growth of the London life science market in a similar way to what has been seen in New York; however, this approach competes with the current Levelling Up agenda. "The Government has focused on putting money to support projects away from the central areas specifically to support the weaker economic areas. Politically these are the decisions we have taken, and therefore you can't expect London to compete internationally without suitable levels of support," says Jonathan Burroughs, Partner, Creative Places.

Within London's clusters, there is a need for improved conversation and collaboration on how best to develop that area which requires strategic leadership at a local level and regular sharing of project progress and deliverables between developers active. An example of an approach to enable this type of dialogue is the London Property Alliance Knowledge Quarter Liaison Group, a forum for property developers in the KQ that the LPA coordinates with Camden Council. It brings together major landowners and developers across the area with council officers to discuss strategic issues like planning policy, local employment and training, and affordable workspace.

Planning delays and policy in relation to life science need to be addressed with a strategic and holistic outlook. One of the key factors facing the planning sector in London is that pre-application discussions between the developer and local authority take longer as a result of complex submission requirements that need significant time and resource from both parties. Planning applications require detailed evidence on a range of topics, from whole life carbon, fire, social value to biodiversity net gain. Capacity and funding issues at a local authority level have further contributed to the delay in the planning system. It is estimated that 56% of the life science development pipeline in the Golden Triangle (Oxford, Cambridge and London) is yet to secure planning due to delays in the system¹⁸.

The Labour Party has announced that under a Labour Government, in addition to addressing resourcing, planning applications would be fast-tracked for battery factories, laboratories and 5G infrastructure as it seeks to supercharge high growth industries.

Within cluster locations, planning teams have done a good job of upskilling over the last five years to bring forward life science-led proposals, but there remains further opportunity to continue this learning within those local authorities. Outside of cluster locations, there is a requirement to upskill planning departments currently short on life science experience in order to efficiently advance life science planning applications in new locations.

As London's clusters evolve and grow, London needs a plan to effectively service and support the sector's growth. Labs require a high level of servicing, with goods and gases in and out of buildings daily, while in the evening lab coats and equipment need to be cleaned and sterilised before re-use. An operational and logistics plan should be developed to understand what this service provision looks like both across different buildings in a single cluster as well as across multiple clusters.

“Generally speaking, all planning and pre-app discussions are taking longer across London. This is impacting on the speed schemes can be brought forward and also puts their viability at risk.”

Lisa Webb, Partner, Gerald Eve.

Occupier Requirements

Based on interviews with occupiers, we have established the following high-level occupier requirements from a life science location.

- **Transport infrastructure**
- **Proximity to investors**
- **Flexibility to grow into more space within the same building**
- **Access to a pipeline of talent**
- **First-class servicing of buildings and equipment**
- **High-level resilience of buildings**
- **Opportunities to meet and collaborate with other organisations within the cluster**
- **Access to local amenities: F&B, outdoor space, health and wellbeing**



Between the different London clusters there is an opportunity for connection and collaboration to be developed, and there are positive signs of this beginning to happen. Stakeholders behind White City and Paddington Life Sciences have discussed what a West London life science community could look like.

At a local authority level, Camden, Hackney, Hammersmith & Fulham, Islington, Lambeth, Southwark, Tower Hamlets and Westminster have partnered with MedCity to address the challenge of how local communities can benefit from the life science boom through the LIFT programme.

“The challenge for us is ensuring that the residents who live in the shadow of these developments benefit. We don't just want jobs, we want good jobs, and it is less clear at this stage how residents can access the types of jobs required in the life science sector and that is a challenge we are grappling with,” says Cllr Santiago Bell-Bradford, Executive Member for Inclusive Economy and Jobs, London Borough of Islington.

In the face of the cost-of-living crisis and economic stagnation, London and the UK need a new model for inclusive economic growth that can maximise the potential of highly skilled industries such as life science¹⁹. Each of the local authorities interviewed for this research is focused on the same issues of how the life science sector can drive local economic growth and what a locally sourced pipeline of talent looks like for the life science sector. An estimated 46% of life science-based jobs are non-degree level roles, and there is an opportunity to support the upskilling of residents to work in this sector. “We can't just be passive and support the principle of growth in the hope of the trickle-down effect, because I don't think that works. Instead, we must be active in our approach in how we change systems, structures and recruitment practices,” says Cllr Danny Beales, Cabinet Member for New Homes, Jobs and Community Investment, London Borough of Camden.

An immediate priority should be ensuring that London has a pipeline of skilled lab technicians

and support staff to work in and run the volume of buildings under construction, and appropriate training courses and internships should be in place so that these roles can be filled by local residents. Currently in London there is just one provider offering apprenticeship training in laboratory skills. The LIFT programme is a positive sign of collaboration between local authorities to address some of these issues, but this should be supercharged so that London develops a life science talent pipeline that is serviced at a local level by local authorities.



Image above: Harley Street.
Image opposite right: The Living Centre, King's Cross.



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Image: Paper Yard, Canada Water

2. Sustainability



The global life science sector is facing a sustainability challenge. London should be striving to lead and not lag the market in finding and scaling solutions. This requires a collaborative approach between developers, universities and life science occupiers across the clusters in trialling new approaches and products, sharing learnings, and scaling best practice.

“Life science real estate poses unique challenges for developers seeking to build in a sustainable manner. These buildings require higher floor-to-ceiling heights, stronger floor-loading capability and larger capacity for utilities when compared with an office building, as well as chemical storage and hazardous waste provision,” says Louise Ward, Partner, Charles Russell Speechlys.

Operationally, labs consume five times more energy for their equivalent floor area than office buildings due to the specialised ventilation, lighting and cooling systems as well as lab equipment. The estimated annual energy cost of a lab can be between £6 and £14 per square foot²⁰. The operational efficiency of a lab building is further challenged by the ‘spec race’ whereby developers are including increasingly high-end speculative lab fit-outs in the hope of attracting future occupiers without knowing if what is being included is needed by future tenants. The risk to London is that the real estate sector designs and develops for the minority of users, leaving us with operationally inefficient buildings which are expensive to run and bad for the environment.

In London, innovative examples of sustainable approaches to lab construction are beginning to emerge. The Paper Yard, delivered by British Land in Canada Water exploits circular economy principles through its design and use of standardised components and materials, and all of the primary structural frames of the main building have been constructed utilising reconditioned modules²¹.

The future home of the London Bio-Science Innovation Centre, the Apex Building, part of Reef Group’s Tribeca development in King’s Cross, was partially constructed with Earth Block cast from excavated subsoil from the construction site. With comprehensive circular strategies such as these in place, it is anticipated that the construction industry can boost its circularity to 50% and cut greenhouse gas emissions by 52%²², disrupting the traditional model and paving the way for a more responsible and sustainable built environment.

The practices, management and logistics of lab spaces need further attention in relation to sustainability. Plastic items such as petri dishes, bottles, gloves, pipettes, sample tubes and vials are frequently disposed of in labs. Researchers at the University of Exeter weighed up their bioscience department’s annual plastic waste, and extrapolated that biomedical and agricultural laboratories worldwide could be responsible for 5,500,000 tonnes of plastic waste a year – equal to 83% of the plastic recycled worldwide each year.

In addition to the high volume of plastic waste is the volume of water used in labs. The Institute of Cancer Research, the anchor organisation of the London Cancer Hub, calculated that in 2020/2021 it consumed 28,907m³ of water, enough to fill an Olympic swimming pool 11.5 times.

Many labs across London are fitted out with ultra-low temperature freezers, each of them using the equivalent of two to five households’ worth of electricity per year. A recent initiative to tackle this problem, ‘The Freezer Challenge’, was an international competition to encourage laboratories around the world to adopt efficient cold storage actions, which included raising the temperature of the freezers from -80°C to -70°C. In 2022, 1,200 labs from 27 countries took part in the challenge, which saved a total of 6,372 tonnes of carbon dioxide.



3. Investment



In the last 20 years, the life science sector has accounted for over half (£6.1 billion) of all capital raised by university spinouts in the UK²³. However, for the UK to compete globally, there remains vast untapped potential in converting more of the UK's academic excellence into products that benefit patients²⁴.

In March 2023, the UK Government announced an independent review of the UK spinout landscape, with one of the main concerns being that universities take overly large equity stakes in their spinouts, to the point of making them unfundable by private investors²⁵. In addition, the length of time for spinouts to raise funding is an issue to be addressed, with 56% of spinout deals taking over six months to complete and 22% longer than a year.

The review concluded in November 2023 and put forward a series of recommendations to “accelerate the UK towards a desired end state where: universities partner with their local spin-out ecosystem to prioritise the rapid creation of spin-outs on market competitive terms.”

These are challenges the Labour Party has responded to in its ‘Start-up, Scale-up’ plan, which features a series of policy recommendations, including the publication of an annual dashboard summarising each university’s offer to spinouts and metrics of each university’s spinout success²⁶.

The Council for Science & Technology (CST) has also called for the UK Government to focus on incentivising scale and addressing the challenge that compared to the US there are limited late-stage growth funds in the UK. Despite being third in the world for VC investment, the UK is proportionately weak at scale-up, particularly in comparison to the US and China²⁷. Comparing the fraction of global investments by stage, US investments are 3.6 times larger than UK at early stage, increasing to 9.45 times at scale-up²⁸.

A challenge the UK faces is that the institutional investors required to fund late-stage growth funds are often regarded as more risk-averse compared to markets such as the US, Canada and Australia. In addition, the UK doesn’t have the depth of philanthropic capital or university endowments as in the US. This means that the UK VC market is highly reliant on high net worth retail investors through schemes such as EIS and SEIS, which don’t typically deliver the volume of capital needed to raise multi-billion late-stage funds.

This is an issue which the UK Government is working to address as it seeks to unlock greater institutional investment into venture capital through initiatives like LIFTS (Long-term Investment For Technology and Science), which aims to establish new investment vehicles to crowd-in investment from institutional investors, particularly defined contribution (DC) pension funds, to the UK’s most innovative science and technology companies²⁹.

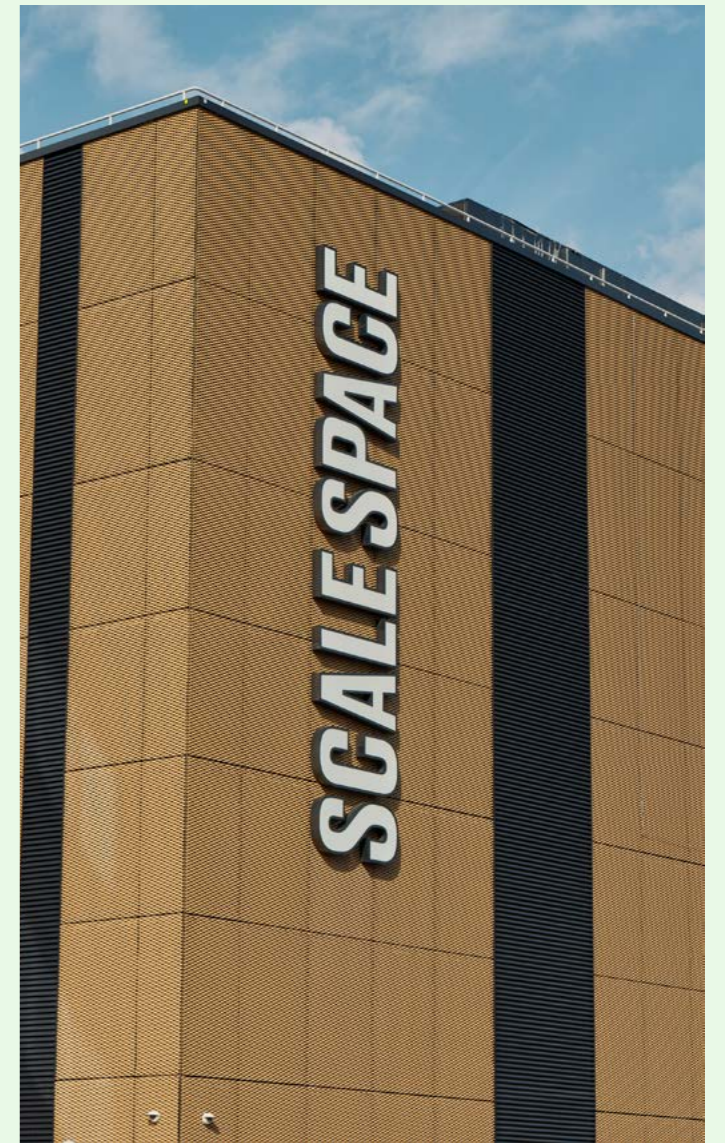
“If the efforts to unlock institutional capital are successful, then that will be significant in supporting London and broader UK life science companies to scale.”

Jack Conway, Senior Capital Investment Officer at UK Consulate Boston, Department for Business and Trade.

The British Private Equity and Venture Capital Association has also said that the UK’s ability to become a science superpower is at risk without an increase in tax relief to attract private investment. The Government’s reduction in Research and Development tax incentives have seen the UK’s rate of tax credit for R&D investment by small companies fall to 19p for every £1 invested or 27p for a subset of ‘R&D intensive’ companies. This means the UK lags behind competitors, including France, which offers 30p for every £1 invested in R&D, and Australia, which offers 45p.

An additional challenge that the UK ecosystem needs to resolve is the volume of UK life science companies that are opting to list on the Nasdaq or New York Stock Exchange, as opposed to the London Stock Exchange. UK biotech’s listing on the Nasdaq benefits from a broader pool of life science-based analysts and investors who are well versed in the high costs of clinical trials required for the approval of any experimental molecule³⁰.

The risk the UK faces is the perception that companies need to be in the US to access capital, both late-stage venture capital and strong public markets, which may result in the UK’s scientists and entrepreneurs choosing to build their companies in the US as opposed to the UK. A further dynamic is the risk that UK life science spinouts will plan to exit via an acquisition as opposed to growing large enough to become a public company, which would reduce the number of large-scale companies built in the UK impacting job creation.



56%

of spinout deals take over six months to complete.

17x

more likely to raise funding of more than £30 million in the US (compared to the UK) in 2022³¹.

Image above: Scale Space, White City.



4. Talent



The life science sector is competing for a limited pool of skilled talent and a restricted pipeline of new talent³². This is in part due to the speed at which the sector is evolving: 71% of companies are planning to grow their workforce in the coming months, and the life science job market is forecast to grow by 8% by 2028³³. In the UK alone, there are 6,000 life science businesses competing for talent, and it is anticipated that more than 31,000 jobs will need to be filled by 2025³⁴.

The life science sector relies on global talent, so the ability to attract people from afar is critical. In the US, non-nationals make up approximately 25% of all science and tech workers, and around 50% of the doctoral-level life science workers³⁵. The UK bioindustry workforce is made up of between 50% and 74% UK nationals, with the remainder primarily from the EU and US³⁶.

The UK is facing its own hurdles following Brexit. Graduates provide a steady pipeline of talent into science, but escalating student fees post-Brexit halved the number of EU first-year student enrolments to UK universities between 2020 and 2021 (from 66,680 to 31,000)³⁷. Applications were particularly reduced for science, technology, engineering and mathematics courses, which has raised concerns about the UK's ability to attract and retain talent from the EU – something seen as paramount to fostering innovation and economic growth³⁸.



71%

of life science companies are planning to grow their workforce in the coming months.

8%

growth in the life science job market forecasted by 2028.

31k

life science jobs will need to be filled by 2025.

Conclusion

Based on the strength of London's universities and research institutions, there is potential for significant growth of the London life science market.

Five years ago, the London's Knowledge Clusters report commissioned by the LPA identified that a constraining factor for the growth of the sector was a lack of commercially available lab space, and the report focused on the place-based ecosystems needed to address this challenge.

Over the last five years, the London property sector has responded, and London has a healthy pipeline of space to be delivered in the coming years. Now that clusters such as the Knowledge Quarter and White City are thriving and growing, this report has focused on the broader ecosystem needed for London to realise its potential as a life science superpower:

• Spinouts:

Life science in London needs a well-oiled university spinout system which develops start-ups with the potential to scale. This system has been under Government review.

• Funding:

Start-ups need access to capital, early stage and then significant levels of growth funding, and currently the UK lags behind the US in providing required levels of funding.

• Incubator space:

Start-ups and SMEs need access to suitable incubator space and follow-on space, and London needs to ensure it is bringing forward an adequate volume of such space.

• Talent:

Start-ups need access to a pipeline of talent, which is a challenge.

• Sustainability:

Young talent wants to work for organisations that share the same values in relation to responding to climate change. Life science needs to address its carbon footprint and wider environmental impact.

In order to respond to some of these challenges and ensure that London has an effective life science ecosystem, this report makes the following recommendations to key stakeholders:

1. UK Government:

- a. London needs a financially backed, strategic approach to developing the life science market. This requires investment to address challenges such as the lack of incubator space and strengthening of the life science talent pipeline.
- b. The Government needs to provide or enable councils to raise the funds to properly resource planning departments so they have the skills to process complex planning applications in a speedy, efficient manner.
- c. Current challenges to the UK spinout system need to be resolved as per the Government's review of the spinout landscape.
- d. Institutional investment should be unlocked to provide the level of capital required to support the late-stage growth of life science start-ups.

2. GLA / MedCity / London boroughs:

- a. London needs a strategic and connected approach to the development of its life science clusters. This includes further dialogue between the existing clusters, with the ambition of strengthening the whole.
- b. An ongoing demand study should be commissioned to improve data on the level of demand and type of space required. This should be supported by London's real estate sector.
- c. A greater strategic role should be played by the GLA and London boroughs to ensure that the right type of space is being delivered in the right places.
- d. A pragmatic and holistic approach to planning is required to ensure that the life science pipeline isn't constrained by planning issues.
- e. A cross-borough apprenticeship programme should be introduced to support residents to

develop the skills required to work within the life science sector. As a priority, this should address the need for lab managers and lab technicians. Internships and work-experience should be provided at London's universities and research institutions.

- f. A cluster-wide servicing plan should be developed which identifies a cost-effective model to provide daily servicing, collections and deliveries to lab space within a cluster.

3. London's property sector:

- a. The sector should work collaboratively with other investors and developers in a cluster to ensure a coordinated approach to the type of space delivered, suitable provision of amenity space, and accessible and interactive ground floor and public realm.
- b. The sector should contribute towards an ongoing demand study, cluster servicing plan and talent pipeline programmes.
- c. The sector should act as the interface between occupiers and local employment programmes, ensuring that residents are provided with access to life science jobs.
- d. The sector should work collaboratively with occupiers to address sustainability challenges facing the life science sector, including sharing best practice.

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