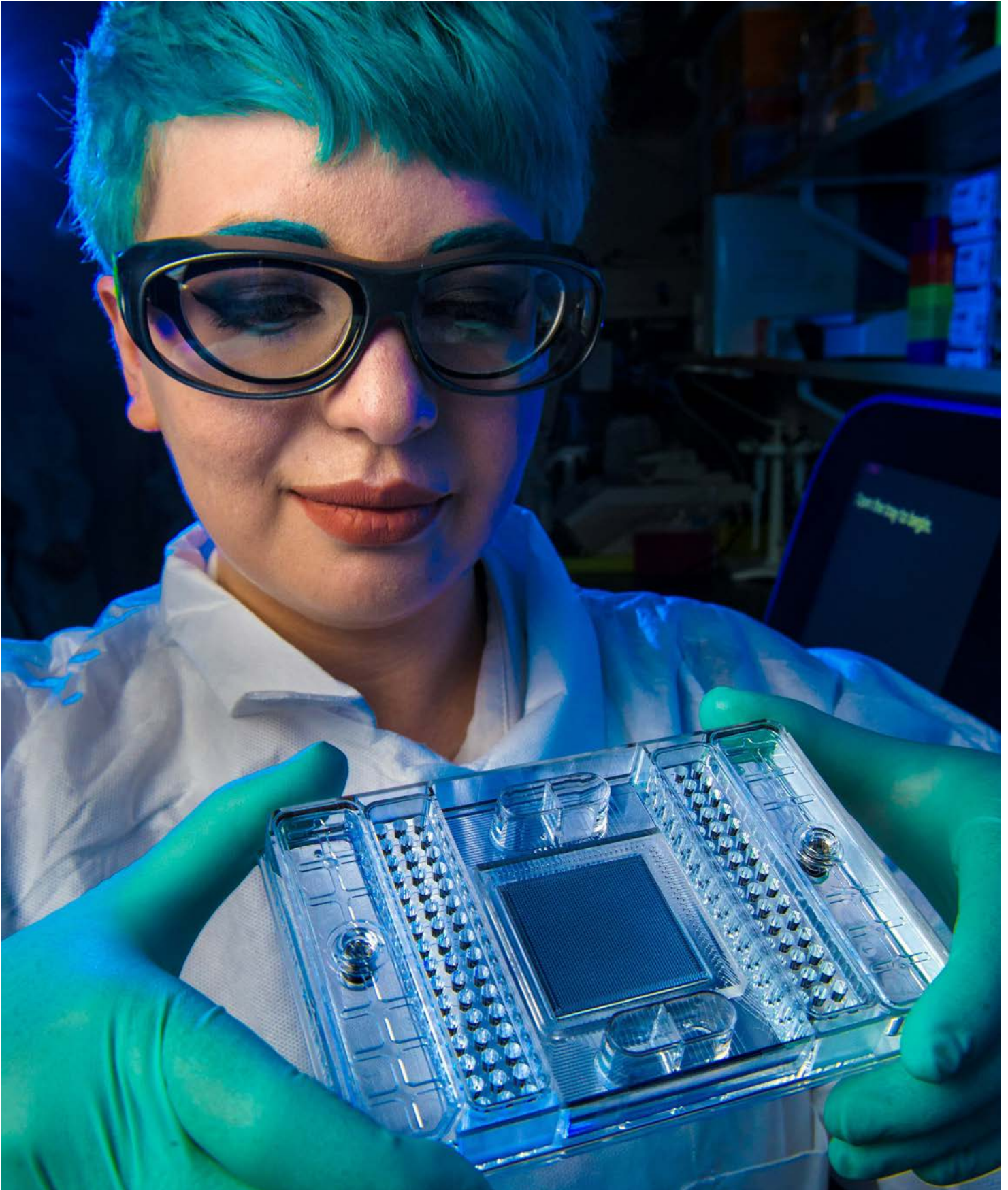


UK Commercial – April 2024

Q
SPOTLIGHT
Savills Research

Life Sciences: Trends & Outlook



M&A • Property Management • Investment



US\$50 billion
estimated future annual spend by pharma companies to speed up drug development using AI

Global & UK trends

What are the largest companies doing and what's the impact of AI?

The larger and leading pharmaceutical companies, particularly those that are listed, have to ensure that the city analysts have optimistic viewpoints of them. In the US, the pharmaceutical sub-sector of the S&P 500, underperformed the overall index during 2023. The pharma sector was 10% lower, whereas the overall all-sector index was 20% higher. Investment in research and development (R&D) will contribute to the future growth prospects of the larger pharma companies, which will have a positive impact on the need/quantum of commercial real estate. Also, as part of the R&D investment strategy, there is an increasing level of spend in the technology sectors, including hardware and software, which will have an impact on labour requirements, both in terms of quantum and type. The type of labour will determine locational requirements, and this is an obvious reason for locating in cities to 'fish' in the same labour pool as the technology companies. We are seeing an increasing demand from larger pharma companies for a London base.

The larger pharma companies are assessed on their future prospects, which is driven by their ownership and creation of intellectual property (IP). The growth of these companies in terms of value and employees, will be driven by the commercialisation of this IP. The success of this commercialisation process will be determined by having the right people in the right place and space - the impact on commercial real estate will be significant.

The chart to the right shows the active and pending patents for the larger global pharma companies. Positively, the pending patents are equivalent to 36% of the active patents total, therefore, a significant level of future IP is in the pipeline. However, the expiring patents are the concern for the large companies - losing full control of them will impact on future commercialisation and profit (however, there will be smaller companies that will potentially prosper and grow from accessing this IP). Over the next 12 months, the majority of companies will see around 3% of their patents expire; AstraZeneca is more than double this average. So where is this all this analysis heading? The analysts are looking for growth and the companies will create this from their IP. However, the entire discovery process is often slow, for the equity markets. This is coupled with the fact that we are seeing tech companies delivering new products and profitability much faster. This focuses big pharma's attention on what to do next. There will be strategic collaborations similar to the recently announced

Boehringer Ingelheim partnership with Oxford-based biotech Ochr Bio. In this example, the partnership will deliver up to US\$1 billion in payments and royalties for Ochr Bio, based upon successful treatments. This deal shows the willingness for the larger pharma companies to embrace and partners with relatively young companies like Ochr Bio (established in 2019) that are utilising advances in RNA, an area of science that grew significantly during the pandemic. The speed at which such companies have grown, in this example showing a ten-fold increase in employees in just a few years (from a low base), is illustrative of the opportunities that large pharma are taking. It also shows the opportunity for smaller UK companies to grow exponentially as a result of such partnership and as a result, their need for commercial real estate would be higher in the medium to long term.

Another impact on the future need for commercial real estate is the result from the expectant rise in merger and acquisition (M&A) activity in the next few years. The larger pharma companies are embracing bigger deals to reduce the impending impact of patents expiring.

For M&A activity, the significant feature of 2023, considering the chart on the top-right of the next page, is the increasing size of the deals done across all global regions. According to EY, this signals a return of the M&A market.

The largest pharma companies need to secure inorganic growth in the core areas of oncology, but also in the less-crowded space of obesity and neurodegenerative diseases.

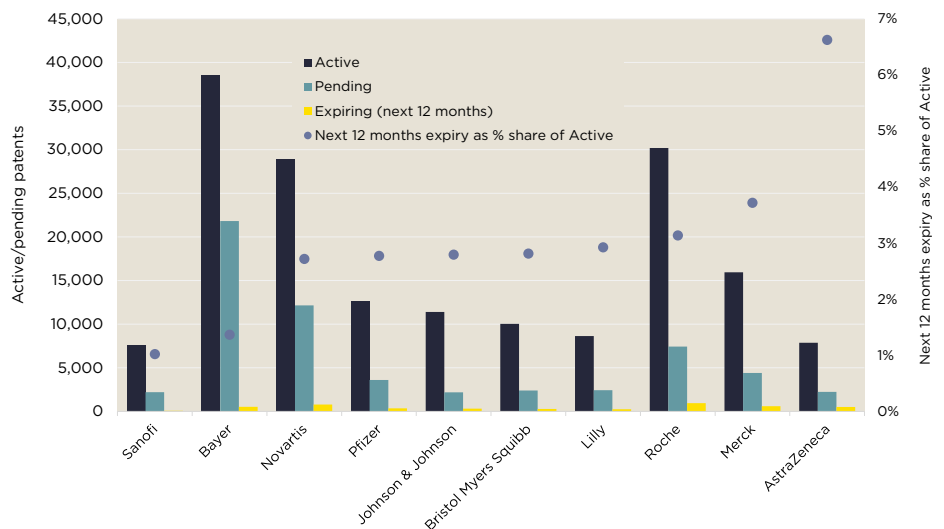
The big question often asked is where is the demand coming from? The established big pharma companies will continue to drive commercial real estate demand. A review of who is spending/investing the most on R&D is a credible starting point to identify the specific companies. There are over 260 companies that are spending at least €100 million per annum on R&D; there are 34 companies spending over a billion euros per annum. As well as significant quantum, it is encouraging to also see, for some of the identified companies, double-digit annual growth in their R&D spend, based upon the latest data available.

In terms of hype, it feels as though the world is at the max peak with regard to artificial intelligence (AI). AI is everywhere and the world of life sciences has obvious applications.

The AI sector and its implications for the world of science will trigger the biggest revolution of scientific discovery. Mapping the genome at the turn of the century, enabled by the data processing power of computers, was an incredible step in the human scientific journey, but the processing of this big data with the use of machine learning will accelerate discovery further.

The large pharma companies are embracing the

The major pharma companies have considerable IP However, patent expiries vary considerably, but all will be looking to grow their pipeline



Source Savills, PitchBook Data, Inc.

“ The larger pharma companies are embracing bigger M&A deals to reduce the impending impact of patents expiring ”

world of AI as it is delivering substantial returns based upon ‘big data’ sets. Last year, Sanofi outlined its internal app called plai which puts real-time data (over one billion data points) at the fingertips of employees. The US\$300 million cost of plai was described as ‘peanuts’ compared to external consultancies’ likely cost to curate a big company’s data.

AI powering drug discovery is now a sub-vertical of the wider life science sector. The ‘AI-powered drug discovery’ sector, on a global basis, has seen over £13 billion raised, primarily as venture capital (VC), by just under 200 companies. The average age of the companies that have attracted capital is less than seven years old.

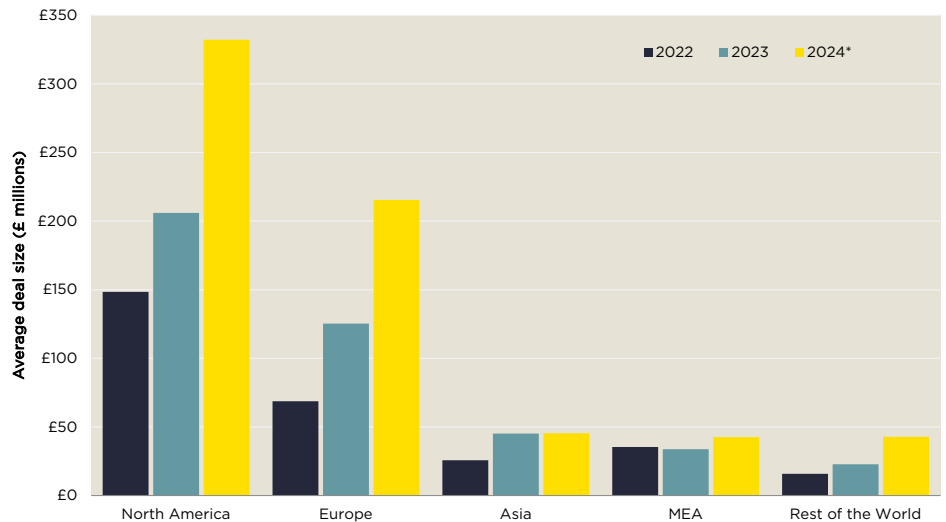
For the ten large companies used in the chart on the previous page, it is calculated that they had £69 billion in cash (or cash equivalents) on their balance sheets at the end of last year. This is £10 billion more than five years earlier. However, Morgan Stanley estimates that, within a decade, life science companies may be spending US\$50 billion (£41 billion) per annum on AI to speed up drug development. The AI models require massive amounts of data that highly automated labs can produce in abundance. The point of AI is the ability to find patterns that humans had not thought to look for. This is the prize. DeepMind is a name most will be familiar with for the London market, but they first raised Series A VC in 2011, so an early player in the market. It will now be the hundreds of companies that are now raising the capital that will propel forward this sub-sector of science. Commercial real estate need and demand in the market will follow.

The M&A and AI comment provides a good indication of what focuses our minds at Savills. However, it is also worth reviewing the VC market to get an idea of where investor sentiment is at present. The chart to the right shows the quarterly data, which for Q1 2024 shows an uptick in VC raised. A stronger Oxford and Cambridge drove this. Oxford saw a five-fold increase over the quarter and saw average deal size increase significantly. We hope for this improvement to continue.



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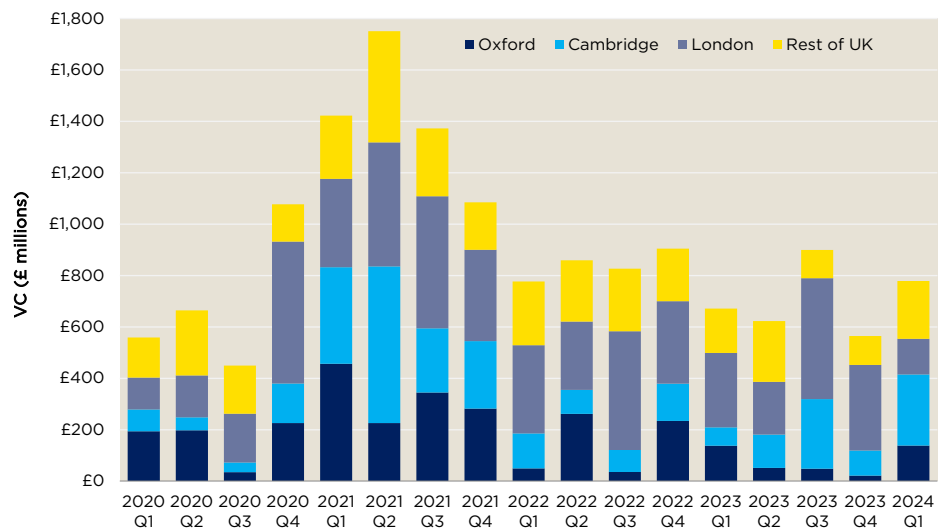
The major pharma companies seek inorganic growth Acquisition values, on average, have increased substantially in the past couple of years



Source Savills, PitchBook Data, Inc. *as at end-April

UK science-related VC had a stronger start to 2024

Oxford and Cambridge both had much stronger quarter-on-quarter growth



Source Savills, PitchBook Data, Inc.

“We see genuine engagement and understanding of our occupiers as key to ensure they thrive in a particular space”

Property management for science

Assets with life sciences occupiers face their own unique challenges due to the presence of specialised infrastructure and specific regulatory requirements. For asset managers like Stanhope, and property managers like Savills, it is our job to get under the skin of our occupiers and understand their business needs in order to respond to these and create the environment to enable them to thrive. A specialised approach to management is required, involving consistent collaboration with the occupier.

At White City Place, Stanhope and Savills strive to deliver a best-in-class environment for life science occupiers to operate. The campus is a centre for the creative and technology sectors forming part of White City Innovation District, combining both lab-enabled and traditional office spaces. We see genuine engagement and understanding of our occupiers as key to ensuring they thrive in a particular space.

Taking into account occupiers' specific requirements may involve guaranteeing that no business interruption will occur – as this could be detrimental to a life science occupier's purpose. It will need to be considered whether a Building Management System (BMS) can operate 24/7 in isolation for one occupier, and whether there are other tenants that have similar requirements. In addition, laboratory space may require fixed temperature controls, high levels of (clean) air circulation, an uninterrupted power supply and high security. Through research and active discussion with occupiers, Stanhope ensures that spaces are built and managed with minimal disruption and optimal production.

From reviewing the fit-out scope or any licence to alter applications, high consideration is given to the use of the space and the impact that this has on services (typically MEP) provided by the building's landlord. We are seeing increasing levels of tenant-specific lease clauses being built into negotiations as a result.

The ethos of White City Place is that it is a place for community, connection and innovation. The area is seen as an innovation cluster with neighbouring partners Imperial College London, Royal College of Art, BBC, ITV and other pioneering organisations. Within the buildings themselves at White City Place, there are currently eight life science occupiers undertaking a range of research and testing in their respective fields – forming a new innovative life science cluster. Regular maintenance and management of each individual laboratory space is carried out by Savills to ensure the building is fit for purpose as occupiers progress through scientific discovery. For example, door access controls are regularly checked, emergency procedures are written in unison with the occupiers and levels/times of



central plant operation are matched to their needs; with submeter installation taking place if necessary to determine individual usage for recharging utilities purposes.

Stanhope adapted what was previously traditional office space to now house laboratories. This work included the refurbishment and repositioning of the existing buildings to transform them into modern working environments and meet the needs of life science operations. An example is the installation of carbon dioxide sensors in lift cores to enable the safe transportation of chemicals throughout common areas. White City Place also offers flexible offices where an organisation can take space on a temporary basis to support existing or future projects.

To aid the life science ecosystem, Stanhope has also begun construction on approximately 24,000 sq ft of grow-on lab space to be created within the office building Media Works at White City Place. This expansion underscores the area's appeal as a hub for scientific innovation and collaboration. The plans will provide fully fitted laboratory and office space with designated rooms for preparation, cleaning, sanitising and recording of findings. This speculative Cat B lab space is the first of its kind for this knowledge district and has been created to attract smaller, newer science and technology companies who do not need large lab space yet. The hope is that it will fuel innovation in the area and is due to be completed in Q2 2024.

Using its depth of life science expertise,

Stanhope is building a thriving ecosystem of life science, technology and innovation companies within the Golden Triangle. Purpose-built lab space providing approximately one million sq ft of labs and workspaces will be created in Oxford North alongside homes, amenities and travel connections, providing a unique workplace hub for the sector. Savills development set up and mobilisation services are engaged to work with the asset management team as the project evolves.

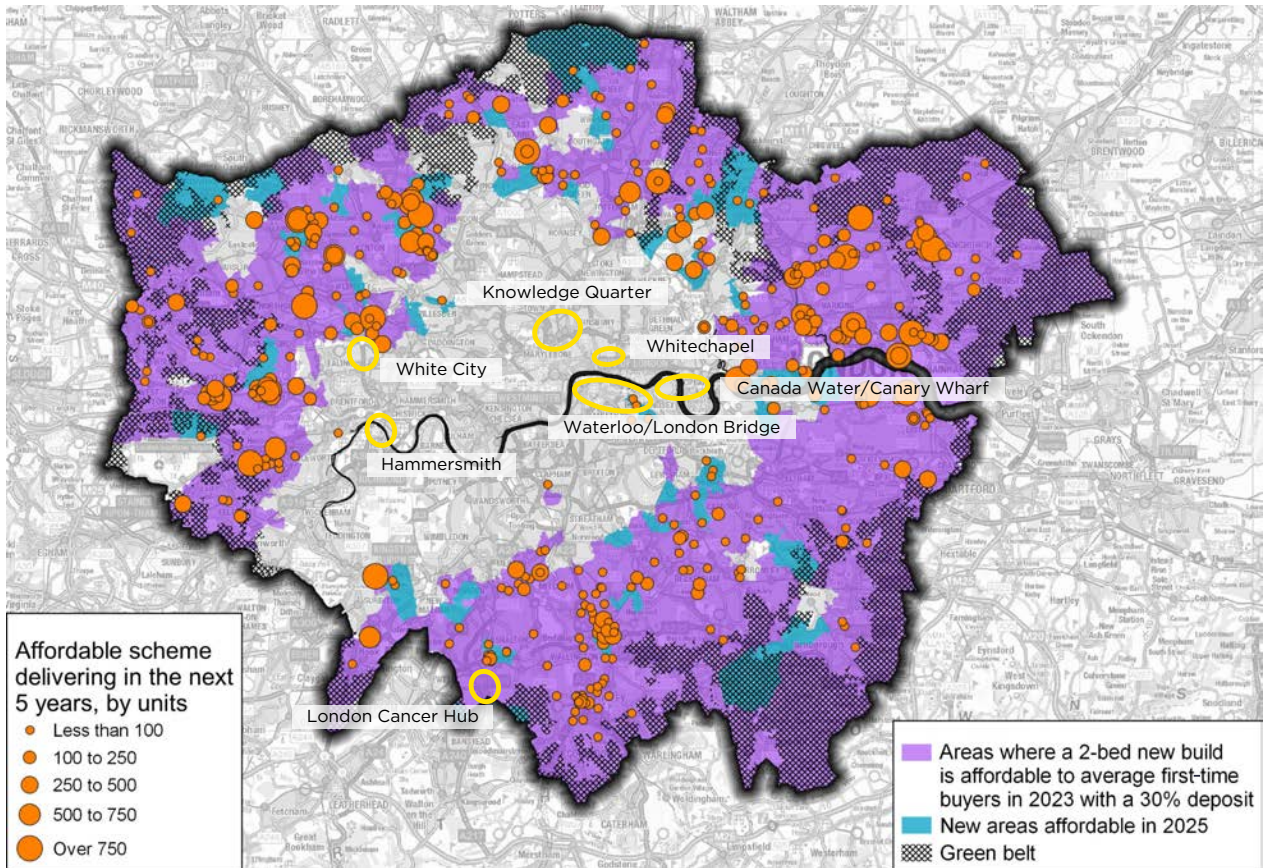
Both of these schemes have been designed using a world-class team of planners, architects, engineers and consultants ensuring they will be fit for purpose and will operate effectively for years to come.



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“Understanding the affordability gap and the factors behind what people are prepared to pay for their housing is key to building resilience for life science clusters”

The importance of housing to the life science sector



Source Savills

The life sciences industry makes a major contribution to the UK economy. Oxford Economics estimates that one in every 121 employed people in the UK works in the sector, which in 2023 contributed over £13 billion to the national economy. Housing the workforce is critical to the success of the life sciences sector.

Across the ‘Golden Triangle’ there is currently 27.5 million sq ft in the development pipeline that is actively being tracked by Savills. Not all of this pipeline will receive planning consent and be delivered. Barriers to delivery both inside and outside the Golden Triangle of Cambridge, London and Oxford, was the subject of a recent report by British Land and Savills ‘Accelerating Innovation – A Five Point Plan To Boost Life Science Real Estate’ (November 2023).

Among the Report’s recommendations for accelerating life sciences development in the UK, is recognition of the need for investment in infrastructure, which includes housing. Typically, the model for many life sciences companies has been to attract and retain talent, but the UK does not have a strong track record in growing workforces compared to its European competitors, added to which there is already

a housing crisis. The availability of housing is rapidly becoming a major constraint to the growth of the life science sector, especially as many life science R&D clusters are located in areas of high affordability pressure.

The challenge is recognised. In July 2023, the Government announced the ‘Cambridge 2040 Delivery Group’ to supercharge Cambridge and deliver up to 250,000 new homes in addition to new business parks, laboratories and science centres to turn Cambridge into the ‘Silicon Valley of Europe’. Cambridge City Council and South Cambridgeshire District Council welcomed the support for investment in infrastructure, but questioned the scale of housebuilding proposed. The Government’s subsequent ‘Case for Cambridge’ published in March 2024 revised the housing figures down to 100,000-150,000 new homes and pushed out the delivery date to 2050. These figures more closely align with the local planning authorities’ own growth plans.

Understanding the affordability gap and the factors behind what people are prepared to pay for their housing is key to building resilience for life science clusters. In London, the challenge is particularly acute, where there is a nascent life

science market and polarised housing market. There is evidence that there could be a greater role for co-living, build-to-rent and more key worker and intermediate housing to help address the challenges presented by affordability.

Savills analysis of London locations that are affordable to first-time buyers illustrates the scale of the challenge. The greatest areas of opportunity for first-time buyers by 2025 will be in outer London, especially in East and South London. There are, however, areas where no new schemes are currently being delivered.

All life science R&D clusters across the UK should be taking steps now to review their workforce and understand their housing need and affordability profile to be ready for a housing boom that could follow a general election later in 2024. For developers, the current supply-demand imbalance will present an opportunity to be seized.



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“There is currently £77 million of assets under offer across the Golden Triangle and a further £975 million of assets available or in the pipeline to be transacted”

Dry powder levels remain healthy for science-related assets

Investment volumes recorded across both Oxford and Cambridge softened in 2023, with volumes reaching £72 million and £143 million, respectively. This represented a 90% and 84% fall, when compared to the average investment volume for the two previous years. The slowdown in investment activity has led to some commentators questioning if the investor interest in the science sector was a short-term trend and a knee-jerk reaction to the Covid-19 pandemic. The transactional activity that has taken place in 2024 so far would initially indicate that this viewpoint is inaccurate. There are currently £77 million of assets under offer across the Golden Triangle and a further £975 million of assets available or in the pipeline to be transacted, which bodes well for improved investment activity in 2024 when compared to 2023.

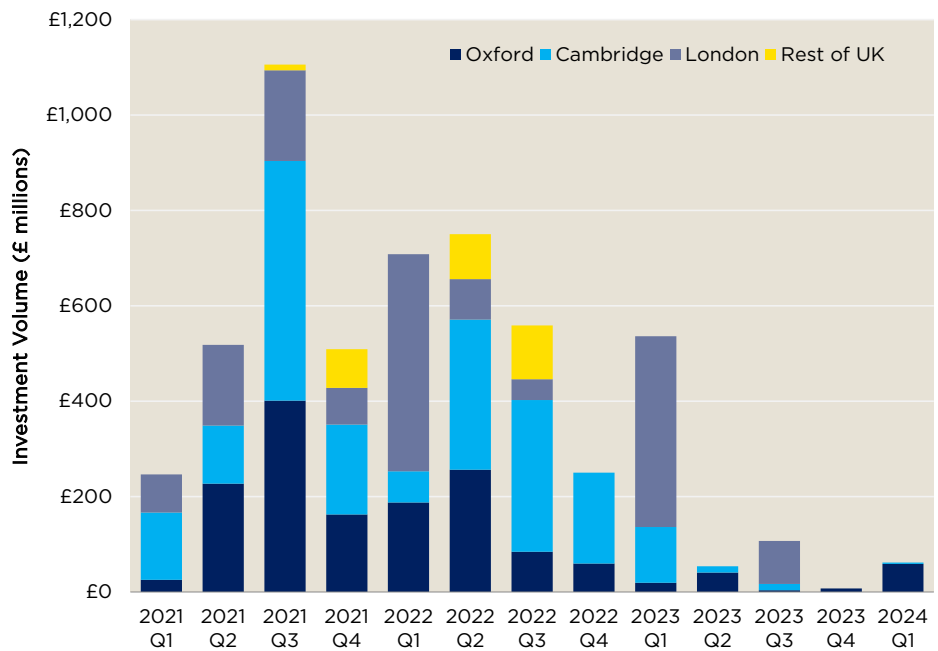
The sector was not insulated from the challenging macro-economic environment that was present last year. Rising finance costs resulted in outward prime yield movement in the sector, with prime yields currently standing at 5.00%. This represents a 100 basis point movement from the prime yield of 4.00% experienced in 2021 and 2022, making pricing attractive to investors. Savills is currently tracking £1.7 billion of dry powder that is actively targeting the science and innovation market, across 59 investors, demonstrating the depth of interest. Notably, the buyer pool is expanding from predominantly North American and European investors to Middle Eastern buyers also seeking exposure to the sector.

After the boom of investment activity in 2021-2022, where turnover surpassed £1.6 billion, it was to be expected that there would be a fall in investment volumes. Delays in the planning system have inhibited some schemes from being delivered at their expected practical completion date which has resulted in a lack of stabilised science assets coming to the market. The majority of investments acquired have been development opportunities with these assets expected to be traded once they have been let. There is currently 11 million sq ft in both the Oxford and Cambridge development pipeline which will provide future investment opportunities in the market and drive investment volumes going forward. It should be noted that 54% and 63% of the pipeline is pre-planning which equates to 5.8 million sq ft and 6.9 million sq ft in each market.

The property fundamentals for investing in the sector remain pertinent today. The region has experienced significant rental growth in recent years. Prime laboratory rents increased by 36% and 15% year on year in Cambridge and Oxford,

Science investment volumes have softened in the last four quarters

However, Savills is tracking £1.7 billion of dry powder that is actively targeting science and innovation markets



Source Savills

respectively, by the end of 2023. Whilst we do not forecast annual rental uplift of this scale in the long term, the ongoing shortage of immediately available laboratory space will support rental growth. This is notable in Cambridge, where the vacancy rate is below 3%. Furthermore, despite there being a significant development pipeline, this is not expected to be delivered over a short period and some of the pipeline may not be delivered at all. The rental growth that the market is experiencing will provide reversionary potential in the majority of assets that are currently being developed which will help support further investment into the sector. Positive occupational leasing data is also improving investor sentiment. At the end of Q1 24, take-up across the Golden Triangle region was 66% above the Q1 average. It is expected that Oxford and Cambridge will both have record years for take-up in 2024 which will boost investor confidence.

Long-term structural factors will also support thematic investor demand. According to the Centre for Ageing Better, it is expected that the number of people aged 65-79 in England will increase by 30% to 10 million people in the next 40 years. Furthermore, the number of people aged 80 and over is set to double to six million which is the fastest-growing age group. The increase in life

expectancy should be celebrated; it does however present challenges, with a rising proportion of the population living with diseases. This will strengthen the need for greater disease prevention and accelerate drug discovery. Another key structural factor is the increasing importance of the usage of AI in clinical drug trials. This trend is enabling the expansion of biotechnology and pharmaceutical occupiers by speeding up the process of bringing products to market. This will help broaden the demand pool and support leasing velocities of new developments.

The outlook for the investment market remains robust, with the aforementioned structural factors and occupational market fundamentals combining to help sustain investor interest in the sector.



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Receiving substantial federal investment in life sciences, the Washington D.C. Metro Region has seen a significant influx of VC into its life sciences sector

Washington D.C. Metropolitan Region

A key and mature life science market in the US

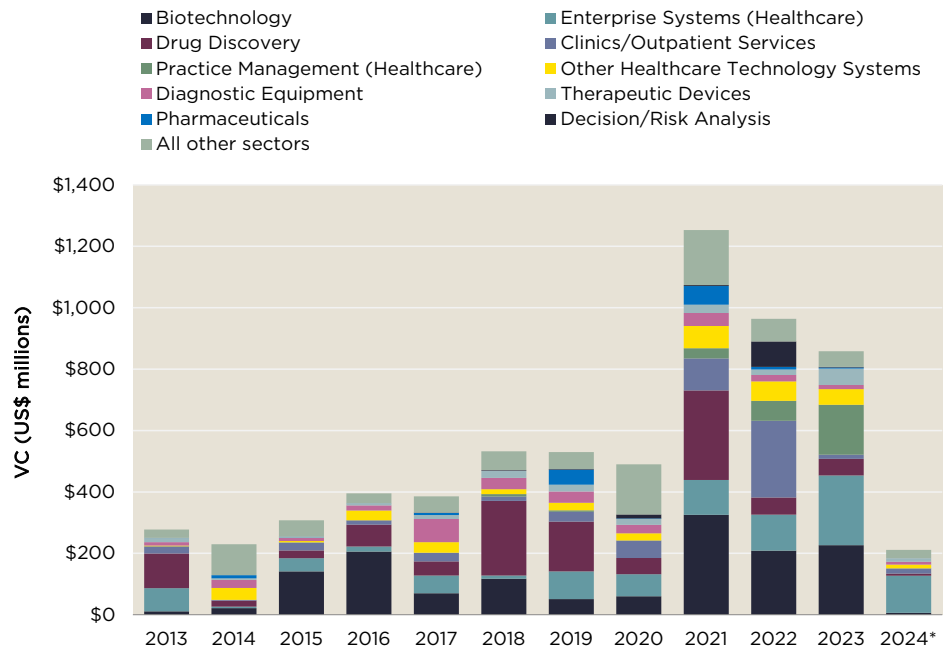
The Washington, D.C. Metropolitan Region, branded as the 'BioCapital Region' and encompassing Washington, DC, Virginia, and Maryland, is an ideal location for life sciences companies seeking to establish or expand. This region has seen substantial growth in recent years, attributed to its unique advantages including proximity to key government agencies, access to a highly skilled workforce with a notable concentration of PhD holders nationwide, cost-effectiveness relative to other leading life sciences markets, and a significant existing cluster of life sciences firms such as AstraZeneca, Thermo Fisher Scientific, and Kite, a Gilead Company.

Organisations operating within the Washington, D.C. Metro Area benefit from public-private partnerships, talent from notable institutions such as Johns Hopkins University, Georgetown University and the University of Maryland, and unparalleled access to research entities including the National Institutes of Health (NIH), Food & Drug Administration (FDA) and over 70 federal laboratories - more than double the number found in any other state. These benefits have and continue to attract major life sciences companies to the region.

Amongst those major companies, Lonza Therapeutics, a Swiss biotechnology and pharmaceutical manufacturing company, maintains several facilities in the area, including its largest manufacturing site in Walkersville, just outside Washington, D.C. Additionally, AstraZeneca has announced a significant US\$300 million investment in Rockville, Maryland, for the launch of novel cell and gene therapy platforms, in addition to situating one of its R&D centres in nearby Gaithersburg, increasing its already sizeable position in the region.

Local and state governments have actively participated in enhancing the region's appeal to life sciences companies through incentives and workforce development initiatives such as BioHub Maryland. This initiative, a joint effort led by the Maryland Life Sciences Advisory Board (LSAB) and the Maryland Tech Council (MTC), amongst others from academia, government, and the non-profit sector, is aimed at addressing the workforce requirements of Maryland's expanding life sciences sector. BioHub Maryland is dedicated to fostering workforce development through initiatives that include career awareness programs, internships for high school and college students, and skills training to facilitate opportunities for individuals from all backgrounds interested in

Life science VC raised in Washington D.C. (metro area)



Source Savills, PitchBook Data, Inc. (Data has not been reviewed by PitchBook analysts) *as at mid-April

the life sciences sector.

For businesses already situated in or considering relocation to the Washington, D.C. Metro Region, Maryland provides various tax incentives catered to life sciences companies. These include the Biotechnology Investment Incentive Tax Credit, offering an income tax credit of 33% on eligible investments in qualified businesses, up to US\$250,000, or 50% for investments in designated areas, up to US\$500,000. Additionally, the Job Creation Tax Credit rewards businesses for generating new full-time positions with state income tax credits of up to \$3,000 per job, or \$5,000 per job in designated 'revitalization areas.'

Receiving substantial federal investment in life sciences, the Washington, D.C. Metro Region has seen a significant influx of VC into its life sciences sector. In 2023, life sciences firms in the area secured US\$1.2 billion across 209 deals, an increase from pre-pandemic levels. A notable funding deal in 2023 was Georgiamune's US\$75 million in Series A VC funding in August 2023, which will be used towards a dose expansion study.

The Washington D.C. Metropolitan Region continues to emerge at the forefront of the life sciences industry, presenting notable opportunities for companies in the region. Its advantages range from access to government

agencies and federal labs to its strong network of talent which solidifies its position as an attractive destination for both emerging and established life sciences companies. The commitment of local and state governments to enhance the region's appeal through financial incentives and workforce development initiatives further solidifies its status as a dynamic hub for life sciences. The BioCapital Region is transforming into a vibrant cluster for life sciences investment and innovation, securing its role as a national leader in the field.



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Savills Science

Science, R&D and technology sectors all demand specific types of real estate. Savills, using data and expertise across all markets and disciplines will help clients make the best real estate decisions. Savills have established offices, with science capability, within the key markets across the UK. Savills also has significant expertise in dealing with all aspects of science real estate, particularly for occupiers, within the key markets in EMEA, North America and Asia. Having a global understanding of these international markets, with experts 'on the ground', means that Savills can provide an enhanced offering to all types of clients, including occupiers, investors and landlords.

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