2024 EMEA Life Sciences Industry & Real Estate Perspective

Exploring key trends impacting the EMEA life sciences sector

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Research

EMEA

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Navigating this report

Foreword – by George Beaton

Welcome to our latest EMEA life sciences industry and real estate outlook report.

2023 was a year of juxtaposition for life sciences, with contrasting trends. On the one hand, the sector was faced with underpinning macro-economic uncertainty and a continued slowdown in venture capital funding. However, amidst these difficulties, the industry also saw numerous positive developments such as major medical breakthroughs across various modalities (GLP-1 agonists for weight loss, antibody-drug conjugates (ADCs), radiopharma, neurosciences, etc), strong drug approval rates and encouraging national and transnational governmental commitments to the sector.

As we progress through 2024, there is cause for optimism as the macro-economic backdrop is forecast to be more stable and predictable, which in turn will hopefully give confidence to investors to release pent-up capital into the life sciences sector. Companies are also expected to continue to grow, which in turn will place even more demand on life science space requirements.

From a real estate perspective, investment activity has gained momentum over the last few years across Europe's clusters, and more is set to continue. In addition, with limited supply and strong demand, investors are increasingly looking at development opportunities which will help to deliver new supply to the market.

Once completed, this supply will present new and attractive real estate opportunities for companies seeking to expand.

But where will these future locations be? And where are the opportunities? From a location perspective, the "Golden Triangle" of London, Cambridge and Oxford stands out from a science and real estate perspective. The Dutch clusters of Utrecht and Leiden also show a remarkable real estate depth. Paris and Berlin are attracting strong investment flows that will, in short term, transform the life sciences real estate landscape. In Northen Europe, the Medicon-Valley and Stockholm-Uppsala clusters have extremely strong science credentials to build on. While the dynamic markets of Barcelona or Zurich-Zug will need to cater for their young and growing company pools.

While this report primarily focuses on lab and office space, it is important to note that the life sciences sector encompasses various building types, including manufacturing facilities and distribution centres. As a result, broader portfolio strategies have become crucial, and striking the right balance across different asset classes will be vital for large companies and clusters alike.

There is no one-size-fits-all approach to life sciences, as the sector's real estate requirements are multifaceted, and they evolve over time with company growth. They are also impacted by locations and their distinctive real estate patterns and dynamics, so understanding local ecosystems is key.

Supporting life sciences growth isn't just for the private sector, public entities, with their local knowledge, networks, urban planning, funding, and incentives, play a vital role in successful life sciences growth. Partnerships and engaging with public and private entities early on is crucial to establishing holistic strategies that cater effectively to local growth in life science markets.

This report explores the key drivers shaping Europe's life sciences industry and how this is impacting real estate markets. We explore the current view and future themes impacting the life sciences industry from both a corporate real estate and investor perspective. Using our cluster model, we will also compare key real estate market and demand data to tier 41 clusters around Europe. This includes a deep-dive into 5 established clusters to highlight their performance and drivers.

So let's explore the key trends, and take a look at opportunities shaping the sector…

George Beaton
EMEA Life Sciences Research Lead

Key takeaways

01

Europe's life sciences corporate landscape has grown substantially over the past decade. The race to find novel drug modalities and an upcoming patent cliff is now fuelling increased R&D driven strategies.

A phase of accelerated company development has, over the past 2 years, given way to a relative consolidation period, marked by increased M&A activity and strategic partnering. Large pharmaceutical companies are targeting innovative start-ups, acquiring valuable intellectual property from early-stage companies facing a difficult fundraising market. In 2024, the life sciences industry is set to experience tailwind effects from novel modalities reaching clinical stages and many potential candidates in development.

02

As macro financial conditions are expected to improve, venture capital deployment will drive demand for dedicated life sciences space.

Pent-up capital has reached record levels to date and its deployment will progressively drive an increase in venture funding across the life sciences, tech and energy sectors. A continued cautious approach from life sciences funders is still to be expected. Proven companies with strong underlying science, good leadership teams and promising pipelines should prevail when seeking funding. Overall, venture capital targeting life sciences should see an uptick in 2024 and subsequently stimulate additional space requirements.

03

The importance of life sciences in Europe is highlighted by 'Horizon Europe', a ground-breaking programme dedicated to supporting scientific research. The success of European clusters heavily relies on public sector support, which acts as a key enabler for support and growth.

European, national and local policies support research and collaboration with substantial capital flows and fiscal incentives. Local investments and incubator schemes are often key to the rise of life sciences ecosystems and the resulting development in surrounding real estate. The UK rejoining Horizon Europe in 2024 is crucial for even greater scientific cooperation across Europe.

04

A demand supply imbalance for multi-occupancy laboratory space.

The life sciences industry is mature in Europe, however, the laboratory investment market is still relatively nascent, and supply is insufficient to meet strong occupier demand. Various multi-occupancy laboratory developments are reaching completion, which, once complete, will make it easier for scaling biotechs to evolve within a growing and more flexible real estate market.

05

Wider real estate trends impacting the life sciences sector must not be overlooked.

The real estate needs of the life sciences sector are extensive and diverse, encompassing everything from early-stage R&D to patent deployment and scale up, to large scale GMP (Good Manufacturing Practices) compliant space, and distribution warehousing. Real estate investors and developers will increasingly need to align to the needs of occupiers, to ensure that they are delivering stock that is fit-for-purpose for their needs and requirements (e.g. quality, size, location). Understanding ecosystems and identifying the real estate assets that best align to companies' different stages of evolution or to their different needs is key.

06

Europe is set for a significant and widespread expansion of its multiple life sciences clusters, where opportunities for occupiers and landlords will be numerous.

Major clusters are expected to continue to be the strongest markets for occupiers and investors, however, smaller and often more specialised markets will also present opportunities for growth. The diversity of the European research scene is a strength that investors and corporates will lean on. Investors can find opportunities in various locations through ground-up developments, repurposing or refurbishing assets. With additional multi-occupancy supply reaching the market, occupiers, especially smaller ones, will soon encounter more letting options with short lease commitments. Established pharma and biotech companies will have the chance to strategically select long-term markets for R&D growth in new up-coming clusters, offering valuable Intellectual Property and talent pools.

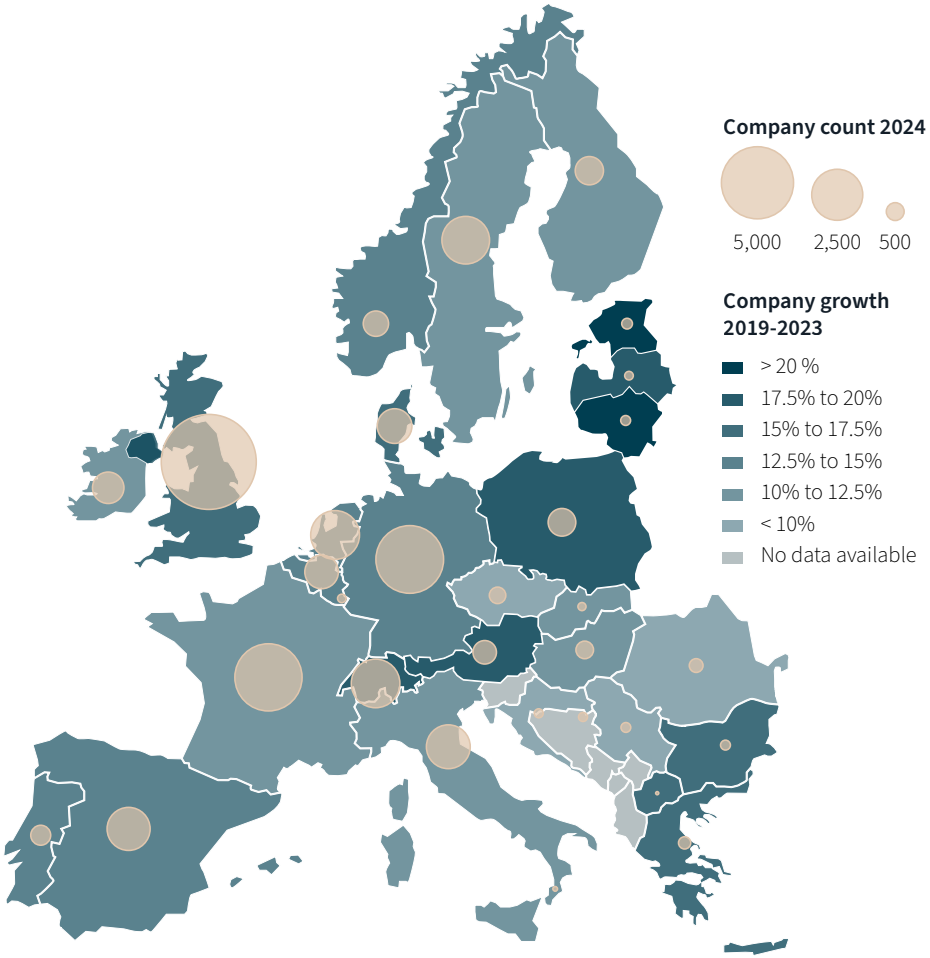
1 A growing life sciences industry

Current view

The life sciences industry is undergoing rapid growth, driven by revolutionary new treatments, structural changes in the industry, digital technologies, and an unprecedented level of investment. The need for medical advancements, teamed with ongoing macro-economic and geopolitical uncertainty means that life sciences strategies are being recognised as key priorities by governments across many European countries. Whether it be through seeking near-shore production or by supporting emerging Research & Innovation clusters, these incentives are fuelling what is an already vigorous growth sector.

Over the past 5 years, the number of newly formed life sciences companies has seen strong growth across the wider European area, rising by an estimated 13.5%. Major life sciences countries such as Switzerland (+17%), United-Kingdom (+15%) or Germany (+15%) have registered double figure growth. Significant growth has also been seen in Austria (+19%) and Poland (+19%) and despite being smaller markets, the Baltic countries are attracting greater levels of investments. Lithuania and Estonia's active company count respectively grew by 22% and 24%.

Company creation started to slow in 2022 and through 2023, as the sector was impacted by global macro-economic uncertainty. The industry has entered a relative consolidation period marked by a rise in M&A activity as large pharmaceutical companies are targeting innovative start-ups, acquiring valuable intellectual property from early-stage companies.



Source: PitchBook Data, Inc.; *Data has not been reviewed by PitchBook analysts.
Note : Data concerns companies having registered any type of capital deal.

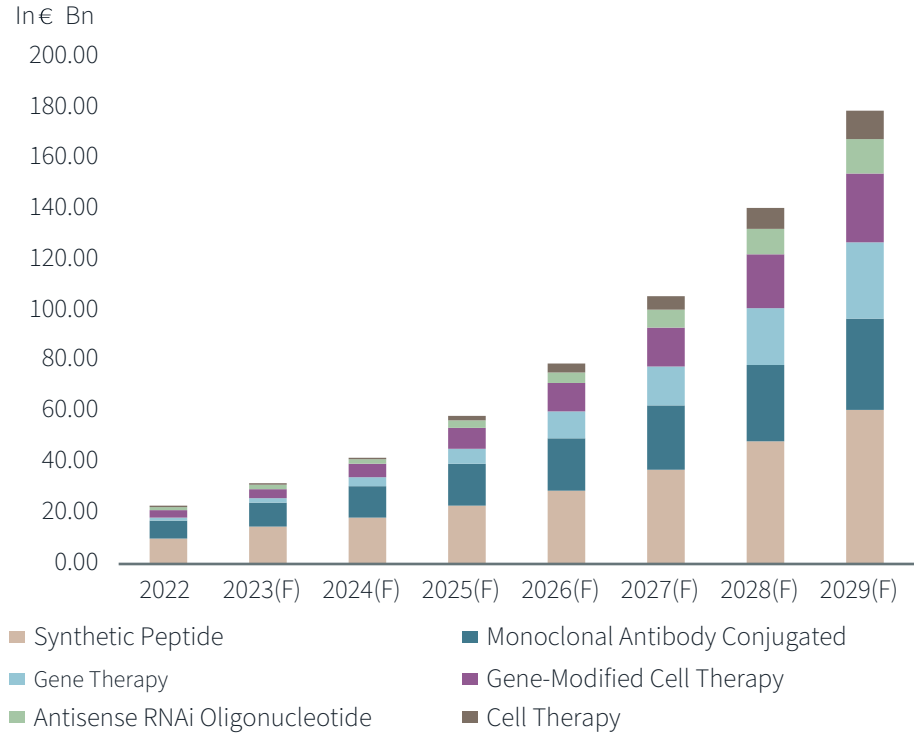
1 A growing life sciences industry

Looking ahead

Across 2024, we expect to see continued M&A activity. The forthcoming patent cliff, with $51.2 billion in revenues exposed to generic or biosimilar competition on average each of the next six years, will spur large biopharmas to seek ways to expand their pipelines through M&A activity. Effects of increased M&A activity can vary depending on the specific circumstances. It can create larger companies with increased research and development capabilities, positively impacting market demand. It also can lead to consolidation and downsizing of product lines or research programmes, negatively impacting market demand.

The life sciences industry in 2024 is set to experience tailwind effects as three modalities burst on to the scene— GLP-1 agonists for weight loss, antibody-drug conjugates (ADCs) and radiopharma. These modalities, which have been in development for over two decades, are now showing both clinical efficacity and blockbuster potential. With many dozens of companies in clinical trial across these three modalities alone, a cascade of scientific and economic outcomes will manifest in real estate infrastructure, from the need for more lab spaces to logistics and manufacturing infrastructure worldwide. At stake are billions of dollars in licensing deals, big ticket M&A opportunities, scale-up manufacturing and Contract Development Manufacturing Organisation (CDMO) infrastructure and pharmaceutical sales. Real estate will trade hands and/or need to be built to physically accommodate commercialisation and growth within these modalities and many others.

Forecasted global sales for some of the most promising drugs by key molecule type



Source: GlobalData

2 Venture capital, have we reached the bottom of the cycle ?

Current view

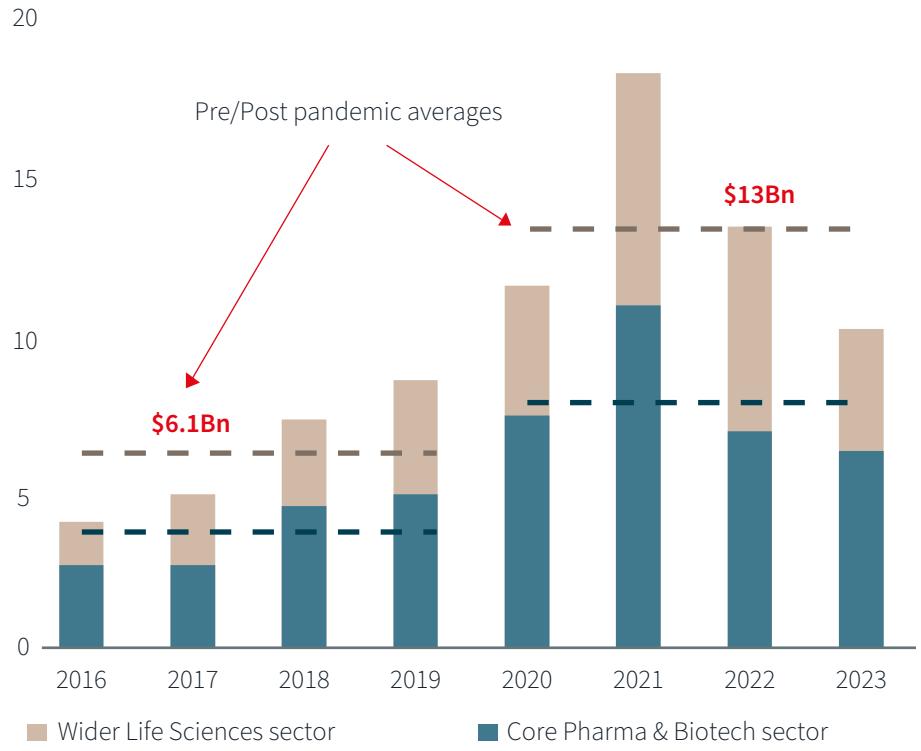
There is a strong relationship between venture funding rounds and how recipient startups use funds to expand their footprints, especially for scaling biotech firms. Between 2020 and 2022, millions of dollars were invested in the sector, which, coupled with a historically low cost of capital, led to many companies successfully raising funds. The subsequent strong demand for space however, exposed Europe's lack of dedicated lab-enabled space.

An upward trend of venture capital investment since 2016 accelerated during the Covid-19 pandemic. The sector doubled its average yearly venture capital from $6.1Bn prior to the pandemic (2016-2019) to $13Bn since 2020. Whilst the $10Bn raised by European companies in 2023 was lower than 2021 (a record year), it was still in-line with the 5-year average of $12.1Bn and was significantly higher than pre-2020 levels.

With $14.7Bn of venture capital funding targeting UK companies from 2020 to 2023, the UK accounts for more than a third of all VC registered across the wider Europe region. France ($6.8Bn), Switzerland ($4.7Bn), Germany ($4.1Bn), and the Netherlands ($2.5Bn) follow.

Companies from the Pharma & Biotech sector are the most successful at attracting venture capital. On average they attract 60% of venture funding despite only accounting for around one third of all life sciences companies.

VC into European life sciences companies ($Bn)



Source: PitchBook Data, Inc.; *Data has not been reviewed by PitchBook analysts

2 Venture capital, have we reached the bottom of the cycle ?

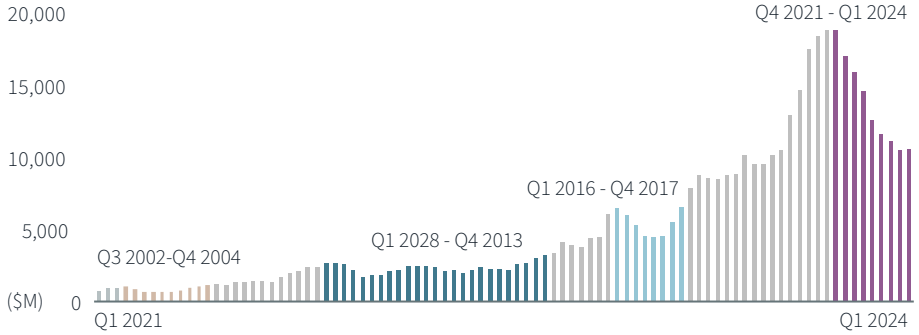
Looking ahead

After record venture capital volumes were recorded recorded in 2021, the present high inflationary environment has seen cash targeting life sciences reduce.

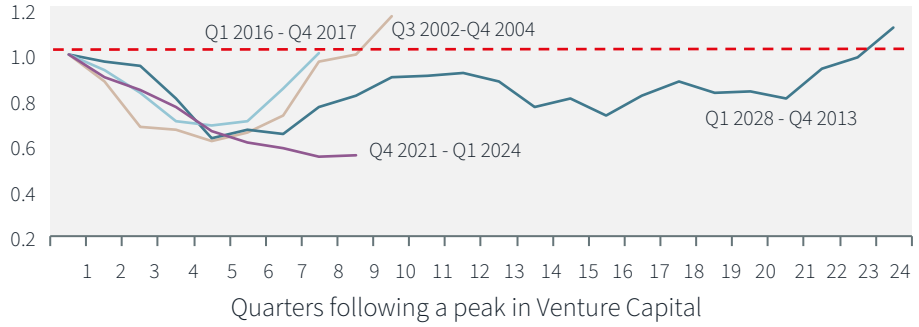
To date, Europe is experiencing its longest and strongest period of reduction in life sciences venture capital compared to previous downward cycles. That said, the last peak was a record year and therefore a stronger correction was expected. In addition, the first signs of recovery were evident in US at the end of 2023, a market Europe often mirrors, and the preliminary figures for the UK suggest a strong first quarter performance, sending positive signs for the rest of Europe in the year ahead.

Finally, if easing interest rate forecasts play out as expected in 2024, this would encourage pent-up capital to be injected into the sector which in turn would help to fuel growth in company and lab requirements. Companies that have demonstrated their success with robust scientific foundations, capable leadership teams, and promising product pipelines will be the most likely to secure funding. Therefore, follow-on funding (additional capital raised by start-ups that have already received initial funding) is expected to be the main driver of an increase in venture capital volumes in the upcoming months.

12 month rolling VC into life sciences (Europe)



Yearly VC recovery time (Europe). 1 = peak of VC funding



Source: PitchBook Data, Inc.; *Data has not been reviewed by PitchBook analysts

3 Horizon Europe, a unique scheme to maintain Europe at the forefront of scientific research

Current view

Horizon Europe (2021-2027) is the latest version of "The European Framework Programmes for Research and Innovation" led by the European Union, the first of which dates to 1984-1987. Horizon Europe supports European partnerships in which the EU, national authorities and/or the private sector jointly commit to support the development and implementation of a program of research and innovation activities.

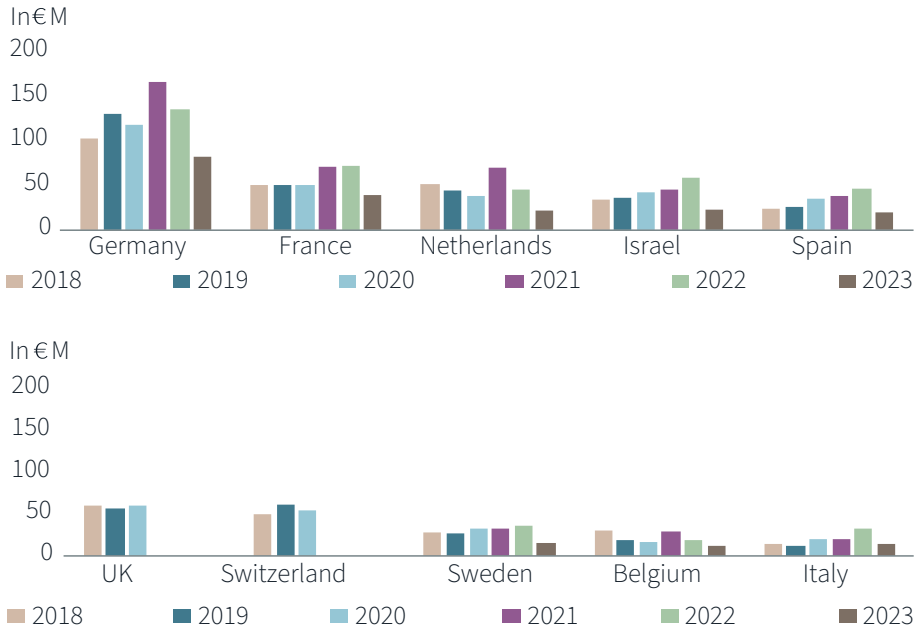
The first pillar of Horizon Europe - 'Excellent Science' - is largely dedicated to life sciences and is led by research initiatives under the 'European Research Council' (ERC), the 'Marie Skłodowska-Curie Actions' and 'Research Infrastructures'. The financing directed to European universities, research institutes and companies plays a central role in bolstering local life sciences ecosystems by encouraging new ground-breaking research. From 2018 to 2023 ERC grants alone totalled €3Bn supporting 1,566 life sciences projects across 338 institutions.

The UK and Switzerland were excluded from the ERC funding scheme at the start of the latest Horizon Europe initiative (2021) because of ongoing discussions around their trade relations with the EU. With two of Europe's strongest life sciences nations no longer involved, the scheme had lost some of its impact as vital budgets going to international research cooperation projects were suspended. Limiting the ability of researchers to collaborate across borders posed a significant obstacle, and hindered the collaboration among top European universities and institutes.

ERC life sciences in figures from 2018 to 2023

€3Bn	1,566	26	338
Contribution	Projects	Countries	Host institutions

Top 10 ERC life sciences country recipients from 2018-2023



Source : ERC grants - European Commission

3 Horizon Europe, a unique scheme to maintain Europe at the forefront of scientific research

Looking ahead

In September 2023, an agreement was reached for the UK to be reinstated in the Horizon Europe scheme. From 1st January 2024 UK researchers were able to apply to ERC fundings. Calls are now strong for Switzerland to rejoin the scheme, which will help to support future life sciences growth across Europe.

Horizon Europe is a highly innovative and incentivising way to distribute public funding. Each country pledges a yearly contribution to the scheme's budget which is then distributed through grants to successful national and transnational research projects.

The scheme, along with various other publicly funded projects and incentives, emphasises the crucial role national and local governments play in supporting and promoting research. Publicly-funded research is distributed across all of Europe, indicating that the region is poised for an extensive and broad-based growth in the field of life sciences in the coming years. If leading clusters like the Golden Triangle, Western Netherlands, Paris, the Medicon-Valley or Berlin are likely to continue to grow, new real-estate requirements will need to be met across all locations and tailored to each micro-location.

4 A demand supply imbalance for multi-occupancy lab space

Current view

In the most mature clusters in Europe, there is insufficient stock to meet immediate and near-term lab demand from occupiers. Across the Golden Triangle real estate market in the UK, lab vacancy remains very low at approximately 1% for Cambridge and London and 4% in Oxford. The lack of suitable space is in turn limiting the sector's ability to reach its full potential, restricting demand and pushing rents upwards.

For most of continental Europe (the Netherlands the exception), the life sciences investment market is still relatively nascent, and labs are still considered an 'alternative' asset class. Lab space would have previously been owner-occupied but increasing demand coming from growth in new biotech companies, teamed with limited supply, is driving investor interest in the rental model of lab stock. There is a particular imbalance in the demand and supply dynamic for flexible, multi-occupancy lab space that enables companies to develop, innovate and subsequently grow. Vacancy in public sector and/or academic incubator spaces across Europe is extremely tight, with limited availability and low rotation rates highlighting the need for more dedicated space at the next stage of growth. For companies who are outgrowing incubator space, there are limited opportunities for subsequent grow-on space. Owning their real estate is often incompatible with early-stage business cycles and leasing opportunities are very scarce and/or not tailored to rapidly changing needs. Supply is therefore a distinct challenge.

4 A demand supply imbalance for multi-occupancy lab space

Looking ahead

Investors and developers are expected to continue to be attracted to life sciences investments in 2024, underpinned by strong demand for space teamed with limited availability. The asset class is also seen as an alternative to other sectors that currently have weaker market fundamentals.

Many investors have teamed up with developers to form partnerships in an effort to leverage expertise and deliver new life sciences product to the market. This is particularly successful where capital is matched with domestic developers, who have local knowledge and can deliver fit-for-purpose stock for that location.

The development pipeline across Europe is strong with a number of new developments reaching practical completion and bringing new stock to the market in the next few months, particularly in the UK and the Netherlands. With the delivery of this new supply, and continued strong demand expected, an uplift in take-up volumes in 2024 is expected. For continental Europe, more new supply is expected to reach the market from 2025 onwards.

Larger cities in Europe are focusing on and realising the opportunity for the development of life sciences stock. London, Paris and Berlin are examples of cities where developer interest is focused, particularly for sites in more central areas, and where there are public sector incentives to support development. For new supply coming on to the market, there will be limited comparable evidence from a rental perspective, with pricing determined locally and based on the wider market fundamentals and dynamics.

Strong pipelines across major European clusters

Source : JLL Research. Identified projects under construction or with full planning permission as of 01.03.2024

5 Wider real estate trends impacting the life sciences sector

Current view

Investor focus to date within life sciences has been on lab space, given the rising imbalance in demand and supply fundamentals. That said, the real estate needs of life sciences companies spreads much wider than just lab stock and also includes other asset classes like office space, GMP compliant manufacturing units, specific storage facilities and distribution centres. Furthermore, the stage of commercialisation that companies reach also dictates the type of space they require. The success of an ecosystem relies on its capacity to provide a wide portfolio of spaces, offering choice for those at different stages in their evolution.

In addition, the supply chain of life sciences is critical to achieving success, with timing often key when it comes to speed of getting products to patients.

With this, there has been a strategy by companies to re-shore and near-shore, to make the sourcing of materials closer to the manufacturing of products, and then closer to markets. This can help to save time, reduce costs and limit associated legislative/certification challenges linked to operating across different markets.

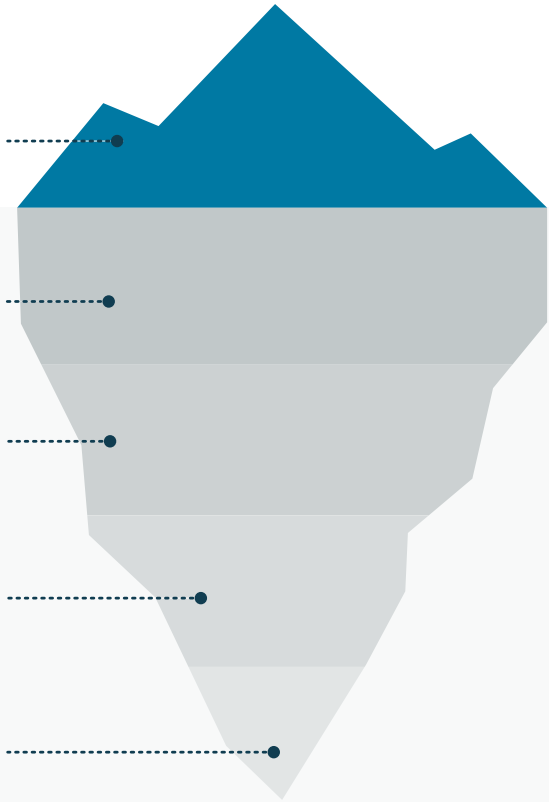
R&D Laboratory space
Producing and developing research is driving real estate requirements for multi-occupancy laboratory buildings

Office space
Life sciences requires office space for lab-complementary research, administrative and HQ functions

Manufacturing space
With the growth of research and the increasing number of drugs reaching clinical stages, the need for manufacturing space will grow and will not always be adjacent to the R&D spaces

Warehouse/ Cold Storage
Logistics are at the forefront of life sciences where the final goal is to maximise distribution locally. This requires cold storage for stockpiling drugs and refrigerated transport systems to reach patients

Point of care
The proximity to hospitals and other healthcare units are of growing importance for certain therapies such as precision medicine with short out-of-lab lived therapy batches. Point of care is also important for clinical trials



5 Wider real estate trends impacting the life sciences sector

Looking ahead

Life sciences companies are increasingly placing an emphasis on understanding the performance of their buildings to help drive portfolio strategies. Companies will continue to invest in technologies that allow them to collate data to understand how their entire portfolios are performing. With clarity and consistency on building metrics, this can drive wider strategic decisions on portfolios.

The implementation of technology in facility management will be key to tracking a building's performance - monitoring, predicting and even automating tasks. With a building's performance optimised, it can also help to reduce costs. This is particularly the case for sustainability, with technology expected to be a catalyst for green progress for companies. Tech will help to track science-based outcomes, which can be used by organisations to monitor progress.

For companies undergoing wider transformation, or growth on a wider scale, we have seen the increasing use of outsourcing as a tool. The drivers of outsourcing are varied (save time, cut costs, flexibility, scalability, skill shortage etc), but ultimately, an outsourcing partnership is a collaborative, rather than transactional relationship which delivers improved services alongside efficiencies, and is aligned with the organisation's goals. For life sciences, there has been an increase in the use of CDMOs, a company that provides comprehensive services for the development, manufacturing, and supply of pharmaceutical and biotechnology products on a contract basis. CDMOs serve as outsourcing partners for pharmaceutical companies, assisting them in bringing their products to market efficiently and cost-effectively.

Occupier opportunities & challenges

Navigating the real estate market will become easier

There are a number of large-scale multi-occupancy R&D developments reaching practical completion in 2024, which will bring much needed supply and therefore choice for occupiers to the market. For 'young' biotech firms, and other scaling companies, these buildings will offer flexible lease terms and the option to expand as they grow. This allows these companies to concentrate on their research while benefiting from fit-for purpose, energy efficient buildings, designed to encourage collaboration with other like-minded occupiers. As supply continues to increase, companies will have a wider range of options when it comes to choosing the location of their facilities. They will be able to choose between the traditional out-of-town science parks or the emerging central and urban areas. However, it is important to note that current supply is still very limited and does not adequately meet the demand for space.

Talent attraction a key consideration

Life sciences employment figures in major UK clusters have shown strong growth, rising yearly by close to 10%. Academic institutions have played a pivotal role by not only generating valuable research but also supplying the essential skilled workforce and sought-after spin-out companies.

For start-ups, employment requirements evolve as they reach the market, moving from trained scientists, to a need for mid-qualified and more technical profiles at manufacturing stages. Local talent availability is an important factor for companies assessing their locational strategies.

AI and automation at the forefront of a rapidly changing work environment

The life sciences industry is embracing new technology tools, with a particular focus on artificial intelligence (AI) and lab automation. By leveraging AI and automation, the life sciences sector will increase the efficiency of its operations, from research and development through to manufacturing. These technologies enable an increasing number of high value tasks, in and out of the lab, that will be performed with greater efficiency and scale, leading to cost savings over time. Integrating AI and automation to complement human capabilities will be a clear differentiator.

Sustainable real estate is imperative

With more and more companies signing up to science-based sustainability targets, they are increasingly using real estate to help deliver their goals. Life sciences companies are actively seeking sustainable and environmentally friendly alternatives to power their operations for facility management.

Companies are exploring ways that they can invest in technology to help them to monitor and track green progress. Tech advancements are giving greater levels of transparency to companies on the performance of their buildings, allowing them to be more agile and responsive. The future of sustainability tech is expected to be focused on prediction and automation, in an effort to be more efficient and cut costs.

Investor opportunities & challenges

Sustainability is a shared goal

Sustainability is a key priority for investors and developers. Achieving the highest green-credentials is the best way to future-proof real-estate assets. Additionally, occupiers are prepared to pay a green premium for space that aligns with their sustainability goals. Green leases are now becoming the norm and there is a concerted move towards establishing clear requirements for both landlord and occupier to collaborate, given that both benefit and are accountable for the outcomes.

Everything is 'hyperlocal'

The performance of life sciences facilities is intricately tied to hyperlocal factors, driving the need for a nuanced understanding of pricing, occupancy, venture capital funding, human capital and other key factors upon which successful life sciences real estate developments rely. Hyperlocal analysis provides a more accurate and granular perspective, enabling stakeholders to make informed decisions, unlock new opportunities, mitigate risk and position themselves strategically in the dynamic and rapidly growing field of life sciences.

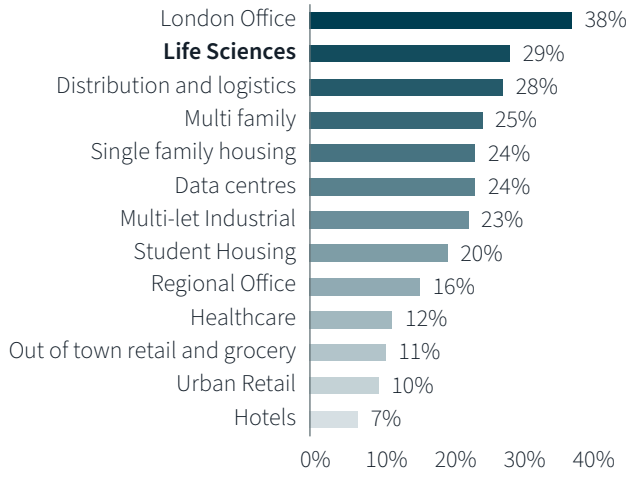
Investor appetite is strong in an increasingly integrated real estate market

As reflected in our latest bi-annual UK Investor Survey, 2024, life sciences is highly rated amongst other property sectors when it comes to medium-to-long-term expected opportunity. When asked to rank property sectors by greatest opportunity in the next 5 years, life sciences came second (behind London Offices), accounting for 29% of responses.

Over the past few years the sector partnerships across investors and occupiers has increased, where the importance of allying capital investments and operational expertise have been strongly acknowledged. Successful examples include Axa IM and Kadans Science Partner, Brookfield and ARC, Oxford Properties and Novaxia, etc. With competitive advantage achieved by leveraging local knowledge, further partnerships are expected across Europe, although new entrants may find it difficult to compete with existing and established partnerships.

Reconversions to grow as city centres take centre stage

For R&D/lab space, developers, corporates and local governments are acknowledging the strong fundamentals offered by more central locations. Iconic sites such as Victoria House in London or l'Hôtel Dieu in Paris are paving the way for more city-like developments. These ambitious redevelopments are complex as they aim to reconvert buildings that were not purpose-built to house life sciences. That said, they represent a unique opportunity for lab-space to be situated in prime city locations.



Source : JLL. UK Investor Survey January 2024 - Which commercial property sectors do you expect to provide the greatest opportunity over the next 5 years?

Cluster benchmarking, exploring Europe's major life sciences clusters

Life sciences markets across Europe continue to mature and grow. In this section, we explore our bespoke tier ranking system and cluster composition matrix, which uses key real estate market and non-real estate data to tier clusters around Europe.

Our analysis is defined by the key fundamentals of a successful life sciences cluster: ecosystem, talent, funding, and commercial real estate. Our model is a blended approach of research intelligence and market knowledge across the European life sciences market.

We have amended the methodology since last year:

- The total number of clusters analysed has increased from 39 to 41
- Leuven & Louvain-la-Neuve were previously included in the Greater Brussels cluster. Leuven & Louvain-la-Neuve and Brussels are now analysed as separate markets. Charleroi and Liège are no longer analysed as they are considered secondary national markets
- In the Netherlands, Wageningen has shown strength in academia, with the highest ranked Dutch life sciences university, and therefore replaces Rotterdam
- Montpellier in France is added to the ranking due to its burgeoning life sciences ecosystem
- Geneva in Switzerland is added to the ranking so that the 3 major Swiss markets are included: Basel, Geneva and Zurich-Zug

Cluster Tiers

We have identified three tiers of clusters and have analysed these against each other to show cluster maturity. Focusing on cluster maturity, our system is split into the following 3 tiers:

Advanced

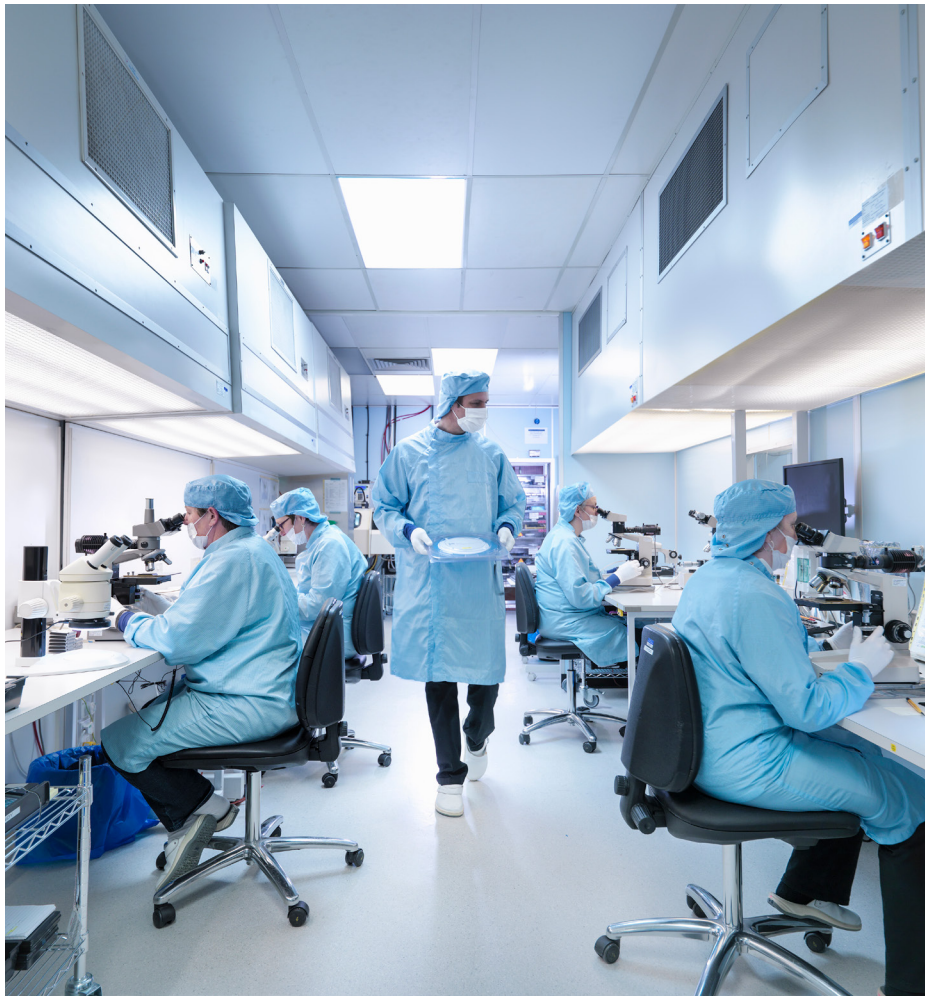
World-leading, top-tier life sciences cluster, backed by solid market fundamentals, such as a large existing company ecosystem, strong academic links, a deep funding environment, robust talent infrastructure, appropriate provision of space and supportive political environment.

Established

Renowned hub for life sciences activity, often being a world-leader in a research specialism. Room for growth, with weakness in some key life sciences cluster fundamentals.

Emerging

Growing cluster, still uncovering specialism and growth across key fundamentals still evolving. Higher up risk curve from an investor perspective.



Mapping the 41 European clusters

Tier movements

Since 2023, several clusters have moved up the tier rankings. This includes:

- Paris and Berlin-Potsdam which have strong fundamentals and steady pipelines of real estate development.
- Gent, Rhein-Necker and Lyon have all progressed from emerging to established markets. This reflects their strengthening ecosystems, growing commercial real estate markets and increased investor appetite.

UK
- 1 Cambridge
- 2 London
- 3 Oxford
- 4 Edinburgh
- 5 Glasgow
- 6 Manchester
- 7 Nottingham
- 8 Stevenage
- 9 Birmingham
- 10 Bristol-Bath
- 11 Leeds
- 12 Newcastle-Durham

Netherlands
- 13 Amsterdam
- 14 Leiden
- 15 Utrecht
- 16 Eindhoven
- 17 Nijmegen
- 18 The Hague-Delft
- 19 Wageningen

Germany
- 20 Berlin-Potsdam
- 21 Munich
- 22 Rhein-Necker
- 23 Hamburg
- 24 Ruhr Valley

France
- 25 Paris
- 26 Lyon
- 27 Lille
- 28 Montpellier

Belgium
- 29 Brussels
- 30 Gent
- 31 Leuven
- 32 Louvain-la-Neuve

Switzerland
- 33 Basel
- 34 Zurich-Zug
- 35 Geneva

Spain
- 36 Barcelona
- 37 Madrid

Ireland
- 38 Dublin

Italy
- 39 Milan

Sweden
- 40 Stockholm-Uppsala

Denmark-Sweden
- 41 Medicon Valley

Looking under the microscope – Human Capital vs Physical Capital

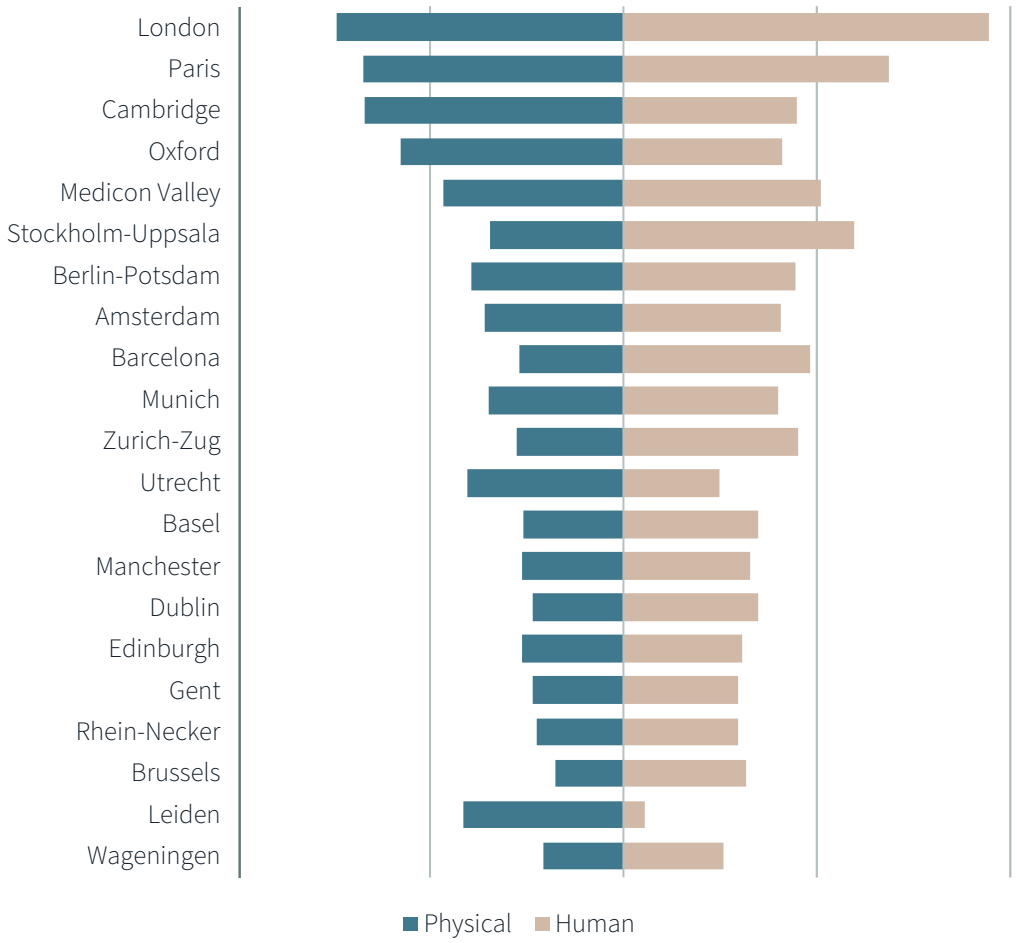
Underlying the maturity tiering of clusters, we have also aggregated the life sciences ecosystem fundamentals into two key measures: human capital and physical capital, to see how clusters stack up against each other. These tools are meant to provide directional guidance on which markets offer opportunity but also identify less advanced markets that may offer future opportunities, which in turn may subsequently move the established and emerging markets forward.

Human Capital

combined ecosystem and talent metrics e.g. company base, employment levels, and the academic environment.

Physical Capital

a composition of funding and real estate metrics e.g. venture capital, public sector backing, and commercial real estate demand / supply / pricing.



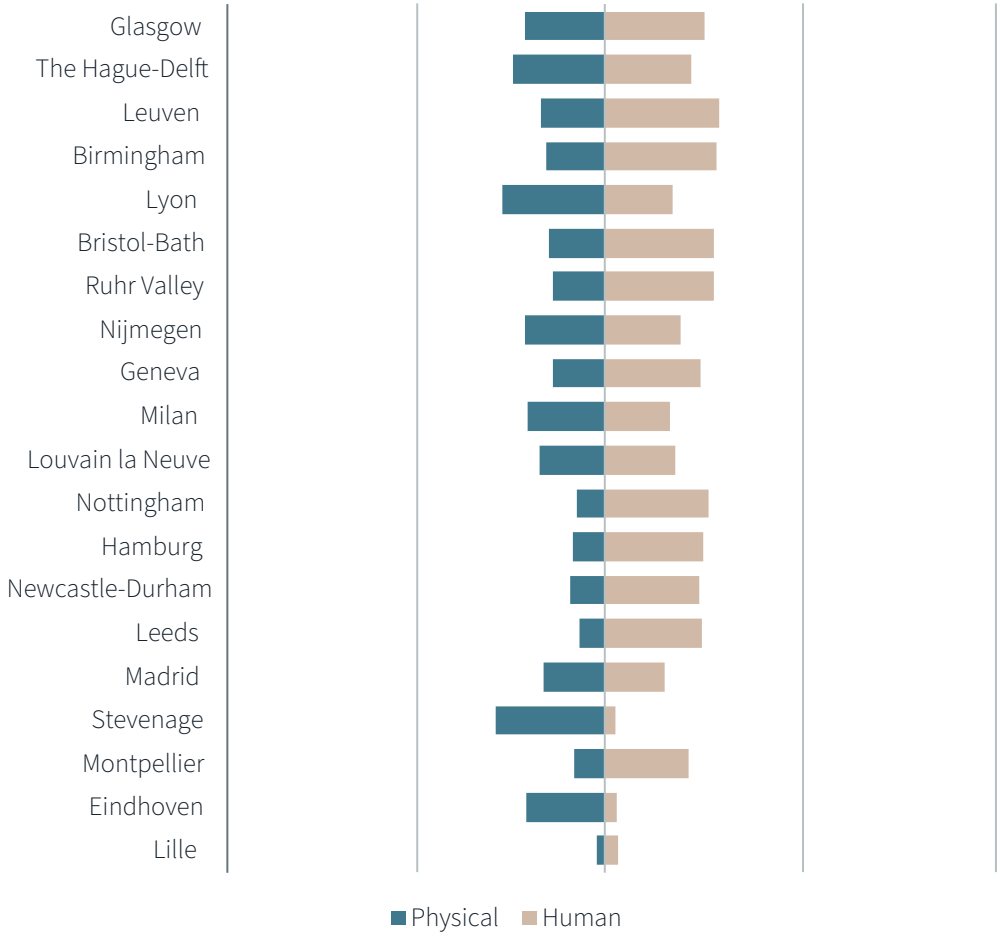
Looking under the microscope – Human Capital vs Physical Capital

The 41 clusters are ranked from highest to lowest based on their overall score while also separating their performance on 'Human' and 'Physical' measures.

Advanced clusters (London, Paris, Cambridge, Oxford and Berlin-Potsdam) score highly for both 'Human' and 'Physical' metrics. These markets already exhibit strong investor appetite for real estate developments due to their robust fundamentals, including a well-established corporate landscape, academic credentials, and funding.

Clusters that exhibit a strong 'Human' score and a slightly lower 'Physical' score are expected to be promising growth markets for commercial real estate developments in the upcoming years. Locations like Stockholm-Uppsala, Barcelona, Zurich-Zug, and Dublin possess strong fundamentals but have opportunities for their real estate markets to expand.

Other clusters that have lower rankings also present opportunities: Birmingham, Bristol-Bath, the Ruhr Valley, Hamburg, Geneva, and Montpellier all demonstrate strong potential in the real estate sector. Interestingly, more specialised clusters such as Utrecht, Leiden, Lyon, or Stevenage have successfully developed tailored commercial real estate stock to align with their more corporate-driven ecosystems.



Looking under the microscope – identifying cluster strengths

Corporate ecosystem

Score is based on the number of life sciences companies, company growth and employment.

Big-city clusters prevail for this indicator due to the depth of their company landscape and the availability of a talent pool to support the sector. London stands out due to its strong corporate base, with close to 1,500 companies in the life sciences sector.

Talent

Score is based on the number of top 200 ranked universities for life sciences, the highest-ranking university and the publications coming out of the cluster's universities.

London, Paris and Stockholm-Uppsala form a breakaway group for this metric with respective scores of 93, 83 and 79. However, smaller clusters with renowned universities also rank highly for this metric e.g. Oxford and Cambridge. Other relatively small-city clusters with a strong talent rank are Zurich-Zug (4th), Leuven (15th) and Wageningen (16th).

Funding

Score is based on venture capital flows (2023 and 2015-2023) and European Research Council funding (2018-2023).

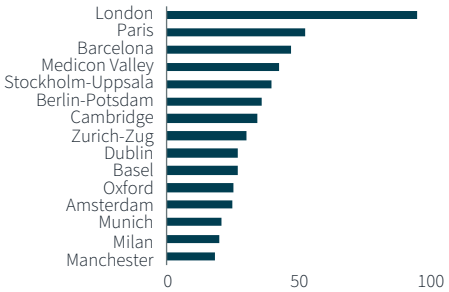
Funding targeting life sciences companies is somewhat correlated to the size of the corporate ecosystem. Capital-city clusters tend to attract high levels of venture funding due to a large corporate base but also the direct presence within these cities of venture funding companies. The proximity to funders makes it easier to unlock capital. Oxford, Cambridge and Zurich-Zug show that strongly specialised clusters are also successful at attracting capital.

Commercial Real Estate

Score is based on estimated lab rent and yield premiums to office and on market liquidity.

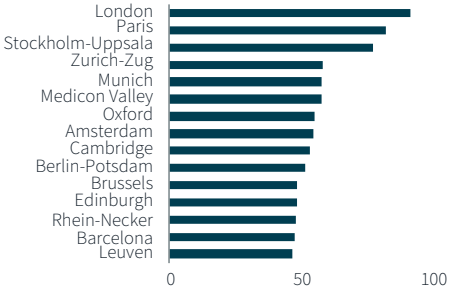
The depth of the UK and the Netherlands real estate markets support their high rank. Leiden and Utrecht are renowned for their commercial real estate maturity, and as specialised life sciences locations and not prime office locations, the lab rent and yield premiums are therefore greater.

Corporate ecosystem – Top 15



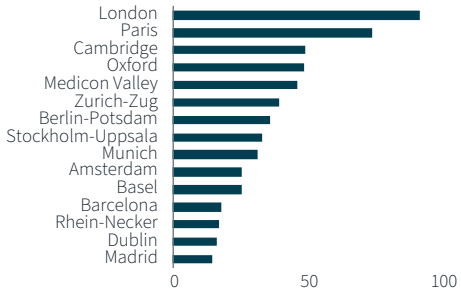
Source : JLL Research on Biotechgate & PitchBook Data, Inc.; *Data has not been reviewed by PitchBook analysts

Talent – Top 15



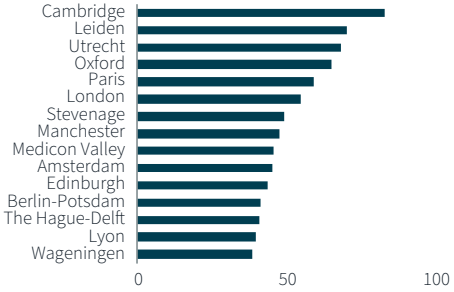
Source : JLL Research on the 2024 Life Sciences Global ranking. CWTS Leiden Ranking 2023

Funding – Top 15



Source : JLL Research on PitchBook Data, Inc.; *Data has not been reviewed by PitchBook analysts. ERC 2018-2023

Commercial real estate (CRE) – Top 15



Source : JLL Research

Case studies

To dive deeper into some of the benchmarked clusters we have presented 5 case studies. This year we have chosen to focus on Tier 2 established clusters that show strong potential for future growth. These provide a good insight into the key characteristics and strengths that make them established markets.

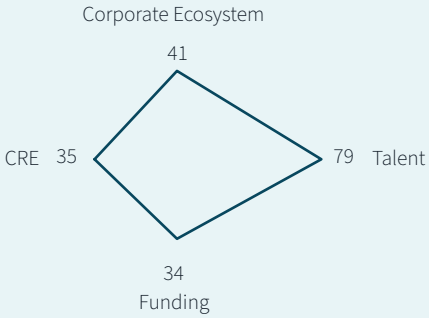
Stockholm-Uppsala
(Sweden)

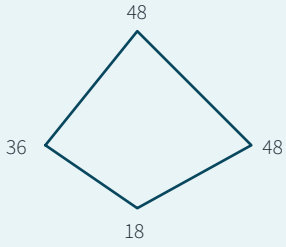
Barcelona
(Spain)

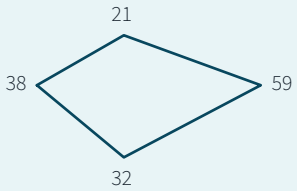
Munich
(Germany)

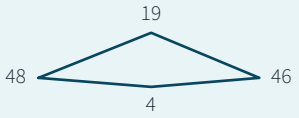
Manchester
(United Kingdom)

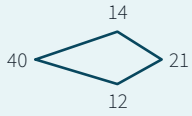
Lyon
(France)











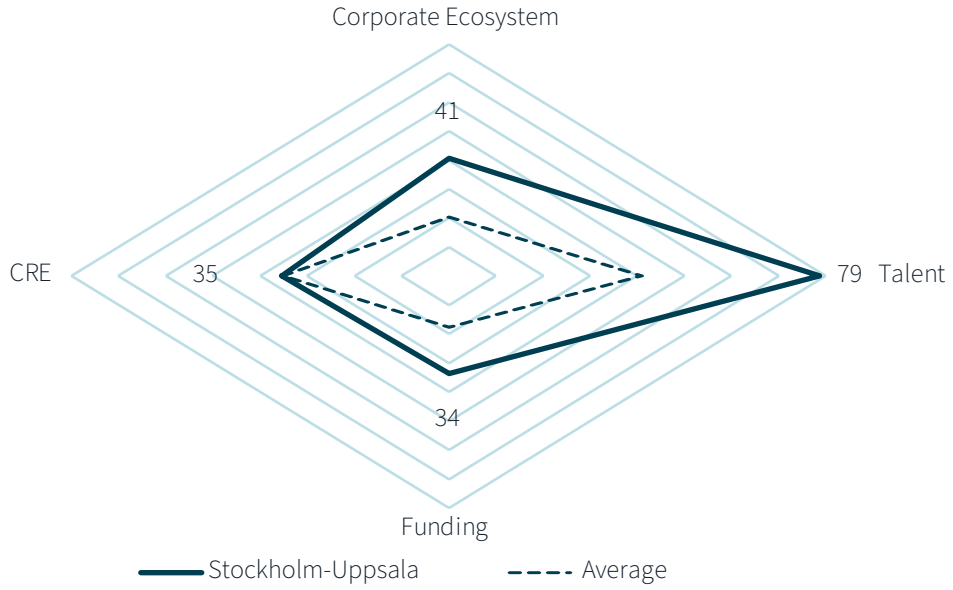
01 Stockholm-Uppsala

Corporate ecosystem

Stockholm-Uppsala together account for over half of Sweden's life sciences industry. The two cities have distinct advantages that complement each other rather than compete. Stockholm hosts a larger share of market and sales companies, while Uppsala is known for its expertise in manufacturing, supported by a range of service providers and industry-specialised experts. Notable multinational corporations such as Danaher, Thermo Fisher, Fresenius, GE Healthcare, and Johnson & Johnson have made significant acquisitions and established manufacturing operations in Uppsala. The Stockholm-Uppsala cluster also boasts robust tech and ICT sectors, a trait that transpires in the strong digital health life sciences subsector.

Talent

The Stockholm-Uppsala cluster is home to four globally ranked universities for life sciences. The University of Uppsala, founded in 1477 and the oldest in Scandinavia, along with the Swedish University of Agricultural Sciences, serve as major anchors in Uppsala. In Stockholm, the Karolinska Institute, a world-renowned medical university, and Stockholm University contribute to the region's academia-based dynamism, which ranks as the third strongest in Europe. These universities not only excel in research quality but also foster strong industry partnerships, facilitating effective collaboration between academia and the local life sciences corporations.



Overall ranking: 6th/41

Tier: Established

Medium-term outlook: Advanced

Total score: 47/100 (benchmark average score = 29/100)

Source: JLL Research

Note: Score represents the weighted proportional rank that a cluster scored for each indicator type. Indicator type represents a collection of key data metrics.

01 Stockholm-Uppsala

Funding

In terms of venture capital, the digital health subsector has been particularly successful in attracting investment, with companies like Kry, Neko Health, and Doctrin securing substantial fund raising. The cluster's remarkable academic research capacity is highlighted by the amount of funding from the European Research Council (ERC) by researchers across the highest ranked universities in the region.

Commercial Real Estate

The Karolinska Institute Science Park, Biovation Park, Uppsala Business Park, and Uppsala Science Park are the primary commercial real estate hubs dedicated to life sciences in the region. The cluster offers a mix of publicly-backed incubators and accelerators, owner-occupied real estate, and commercially available laboratory buildings, providing a variety of options for life sciences companies. Central Stockholm is a challenging area for new lab developments as office demand is high for its prime locations. It is in the suburban locations of the capital and across Uppsala that the lab developments will prove most attractive.

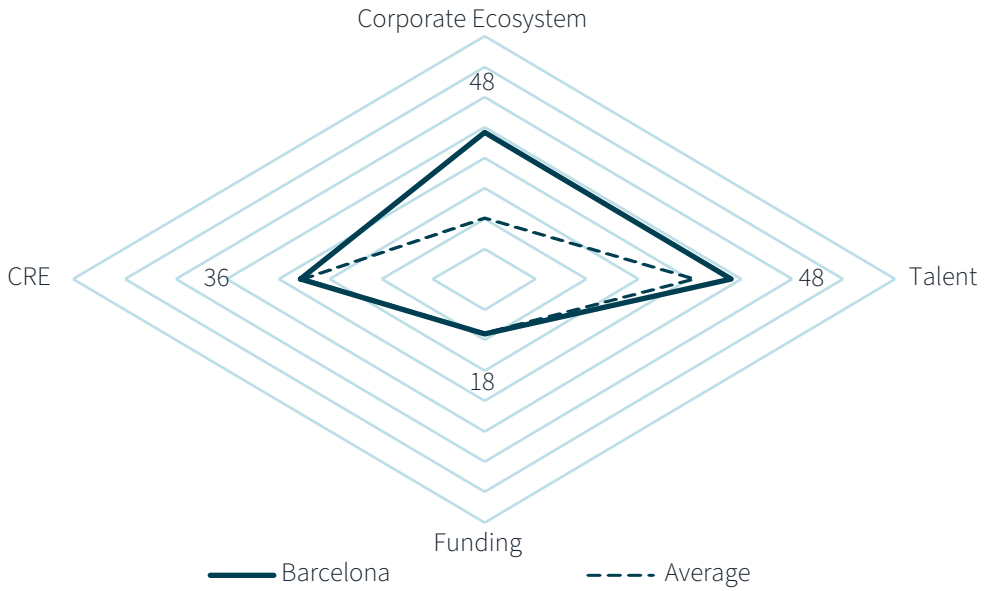
02 Barcelona

Corporate ecosystem

Barcelona ranks as one of Europe's largest and most vibrant life sciences corporate ecosystems, trailing only London and Paris. Barcelona's diversity, international character, and tech-oriented company landscape contribute to its prominence. Referred to as the "BioRegion", northeastern Spain, boasts nearly 50% of the entire Spanish pharmaceutical industry. Many national and international pharmaceutical firms have established their Spanish headquarters, R&D centres, or commercial functions in Barcelona. Notable companies include Grifols, Bayer, AstraZeneca, Boehringer Ingelheim, Novartis, Almirall, and Roche.

Talent

The University of Barcelona and the Autonomous University of Barcelona rank as the top Spanish universities in life sciences, producing significant levels of publications, contributing to the wider talent pool, and developing scientific expertise. While Barcelona boasts an above-average score for the talent metric, it it still lags behind other major European cities.



Overall ranking: 9th/41

Tier: Established

Medium-term outlook: Advanced

Total score: 38/100 (benchmark average score = 29/100)

Source: JLL Research

Note: Score represents the weighted proportional rank that a cluster scored for each indicator type. Indicator type represents a collection of key data metrics.

02 Barcelona

Funding

Several local biotech companies have successfully attracted significant capital recently (e.g. SpliceBio, Minoryx, and Ona Therapeutics) despite venture funding being relatively lower than other major European cities such as London, Paris or Amsterdam. Furthermore, local research institutions such as the Centre for Genomic Regulation, the Biomedical Research Institute, and the University of Barcelona have successfully obtained funding from the European Research Council.

Commercial Real Estate

Life sciences companies are dispersed across the Barcelona region, with office locations primarily situated in the city centre. R&D and manufacturing activities show a strong density in Fira Europa, Sant Cugat del Vallès and the nearby Synchrotron Park. Greater Barcelona has several dedicated life sciences incubators and accelerators such as Craash Barcelona and D-Health Barcelona. The commercial real estate market is primarily owner-occupied with some investment supply present in the 'Parc Cientific de Barcelona'. A recent announcement that Stoneshield Capital will be investing €200m in five life sciences buildings to create the 75,000 sqm 'Barcelona Science Innovation District', will boost supply further.

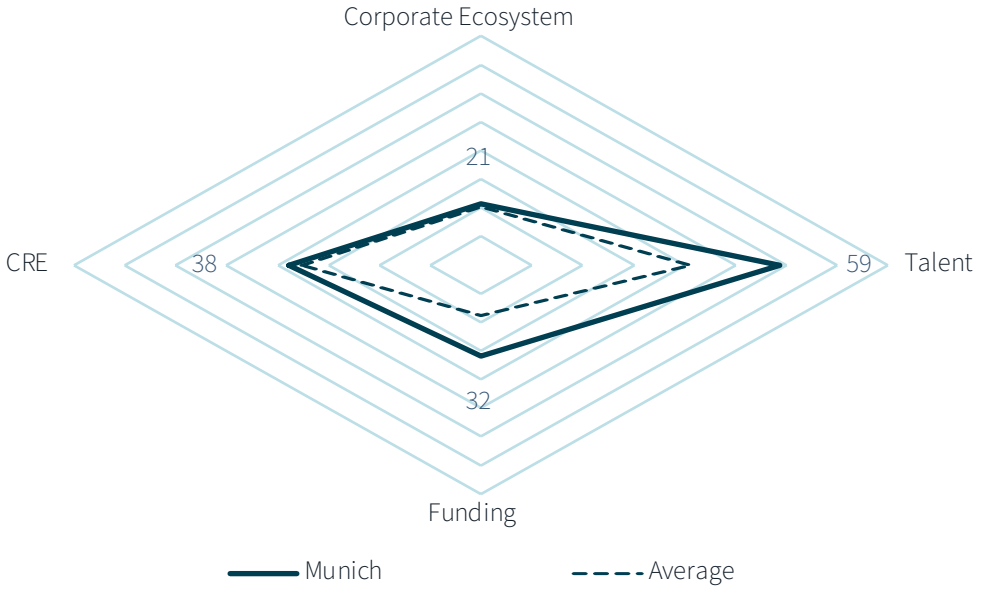
03 Munich

Corporate ecosystem

Munich is the second biggest life sciences market in Germany, behind the Berlin-Potsdam cluster, it stands out for its strong biotechnology and pharmaceutical industries. Well-known national and international companies are based in Munich and the surrounding region, with the likes of Amgen, Astellas Pharma, Biogen, BioNTech, GSK, Bristol-Myers Squibb, Daiicho Sankyo, Moderna, and MSD.

Talent

Two high-ranking universities contribute to a strong academic base: Ludwig-Maximilians-Universität München with its Life Science Campus in Martinsried in the west of Munich and the Technical University of Munich with its TUM School of life sciences in Freising, north of Munich. These universities alongside several research institutes support the early-stage ecosystem through funding, talent, and space.



Overall ranking: 10th/41

Tier: Established

Medium-term outlook: Established to Advanced

Total score: 37/100 (benchmark average score = 29/100)

Source: JLL Research

Note: Score represents the weighted proportional rank that a cluster scored for each indicator type. Indicator type represents a collection of key data metrics.

03 Munich

Funding

Munich saw a downturn in venture capital funding in 2023 after two strong years in 2021 and 2022. Digital health companies such as Avi Medical, iThera Medical or Temedica were among the most successful at raising capital over the past few years. The strength of academia allied to the presence of the Max Plank institute has enabled local researches to be the first German destination for European Research Council grants and second only to Paris at a European level.

Commercial Real Estate

Like much of the European real estate landscape, Germany is undergoing a rapid transformation from a property occupier model to an investor/tenant model. Several commercial lab projects are taking shape in the major life sciences hubs, located to the south of the city and in the bordering municipalities of Martinsried, Planegg and Gräfelfing. To the north, the Munich Airport Business Park also hosts several existing and planned life sciences schemes. Munich has strong fundamentals and is attracting investor appetite which could see it progress from an established to an advanced cluster in the years to come.

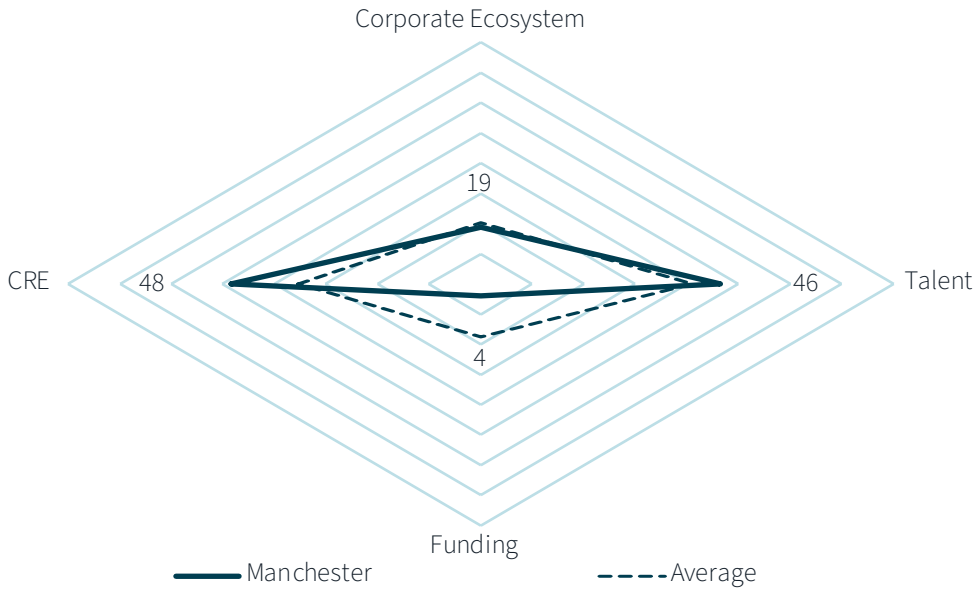
04 Manchester

Corporate ecosystem

Home to the Manchester Cancer Research Centre and UK Biobank, the city-region is at the forefront of innovative treatments to improve patient care and an essential part of UK's bid to be a "Science superpower". The city has a niche focus on advanced materials benefiting the wider innovation of the cluster. Manchester has the largest life sciences corporate base in the UK, outside the Golden Triangle. When looking into the detailed sub-sector landscape, Manchester stands out for the number of "drug discovery & development services" companies with the likes of Sai Life Sciences, Omnicell, Micromass, Kratos Group, Evotec and many others leading the way from a corporate perspective. The area also has one of the strongest proportions of medtech companies in the UK. Keymed Medical Industrial Equipment, Azenta, Amplifon, Starkey Laboratories, Howorth Air Technology are the biggest corporates in this field.

Talent

The University of Manchester climbed from 61st to 54th in the latest 2024 Times Higher Education ranking for life sciences reflecting its strong impact on the sector. The University is an essential anchor and provider to the area's wider dynamism providing 84 all-sector spin-outs between 2011 and 2023, the 5th highest total of all UK universities.



Overall ranking: 14th/41

Tier: Established

Medium-term outlook: Established

Total score: 29/100 (benchmark average score = 29/100)

Source: JLL Research

Note: Score represents the weighted proportional rank that a cluster scored for each indicator type. Indicator type represents a collection of key data metrics.

04 Manchester

Funding

The venture funding directed at companies located in Manchester is relatively low with most of the venture capital flows in the UK targeting the Golden Triangle cities of Oxford, Cambridge and London. However, several promising companies have managed to attract venture funding. Of greatest significance are the multiple raises achieved by F2G, developer of a biotech drug designed to treat novel therapies for life threatening fungal infections, and those of Push Doctor, developer of a digital health management platform designed to offer online doctor consultation services.

Commercial Real Estate

The main life sciences supply is located between the city centre and the south of the city around Manchester Royal Infirmary and the University of Manchester, a large science ecosystem known as the Oxford Road Corridor, equivalent to London's Knowledge Quarter. Bruntwood's Citylabs and Manchester Science Park are amongst the major dedicated commercial schemes, offering flexible space for scaling companies. The out-of-town Alderley Park, formerly owned by AstraZeneca, also offers a large amount of life sciences dedicated supply. The strong potential of the life sciences market in Manchester is attracting key developers such as Kadans Science Partner, involved in the wider Upper Brook Street development, a scheme proposing 2,000 student beds and close to 50,000 sq m of life sciences workspace.

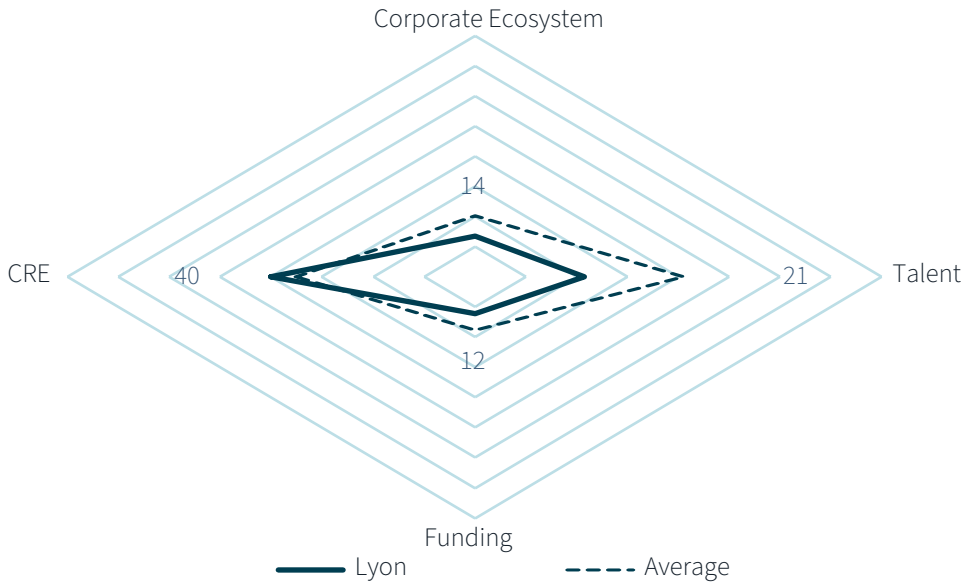
05 Lyon

Corporate ecosystem

Lyon is the second strongest cluster in France, with a strong anchorage from large corporates and major research institutes. A major focus is on the wet-lab R&D subsectors – “pharma & biotech” and “drug discovery & development services”. Lyon has a significant presence of established pharma companies and industry leaders such as Bayer, Roche, Boehringer Ingelheim, and Sanofi. National industry leaders and manufacturing operations have historical roots around the city with Sanofi, BioMerieux, and Boiron employing a significant proportion of the life sciences workforce.

Talent

Two of the city’s universities are ranked in the top 400 globally for life sciences by the Times Higher Education : École Normale Supérieure de Lyon (ENSL) and Claude Bernard University Lyon 1. These, alongside networks such as the Lyonbiopôle cluster, support innovation and help the development of collaborative research projects. Lyon’s talent score is below average due to few highly ranked universities. However, the wider region’s historical pharmaceutical ties, and several R&D sites fosters a wealth of manufacturing and research corporate talent.



Overall ranking: 25th/41

Tier: Established

Medium-term outlook: Established

Total score: 22/100 (benchmark average score = 29/100)

Source: JLL Research

Note: Score represents the weighted proportional rank that a cluster scored for each indicator type. Indicator type represents a collection of key data metrics.

05 Lyon

Funding

From a venture funding perspective Lyon's companies attracted a large proportion of the venture capital raised in France in 2023. Amolyt Pharma, Cathera, Netrys Pharma, Ziwig were among scaling companies successfully raising multi-million deals in difficult macro-environmental conditions. These strong capital flows towards France's 3rd most populated city is a good measure of its growing life sciences credentials.

Commercial Real Estate

From a real estate perspective, Lyon is home to the Gerland Biodistrict (Lyon 7th), a large and urban business district with a focus on health and life sciences. Most of the large corporate occupiers and research institutes such as the International Centre for Cancer Research and the National Health Safety Agency are based within this area. The majority of the institutional research bodies have owner-occupier turn-key labs. A second life-sciences hub has emerged around the Avenue Rockefeller composed of several private commercial buildings. These have met a strong demand and therefore been successfully leased. Relative to its scale Lyon boasts a large life sciences commercial real estate market. With the WHO's Academy due to open in October 2024, Lyon's life sciences specialism is set to grow on what is a well-established corporate and institutional base.

What does this all mean?

The life sciences industry is on a long-term growth path, underpinned by an ageing population, rapid innovation in novel drug fields and technological advances. As some level of macro-economic stability and predictability returns in 2024, increased capital is expected to target the sector, further encouraging growth of companies. Fundraising, mergers and acquisitions, and companies going public are globally on the rise. As such, the life sciences industry seems to have been gathering pace over the last few months and could be reverting to its long-term growth trend. The emerging laboratory asset class will embrace the growing needs coming from the industry across Europe's multiple life sciences clusters.

The growth in companies will in turn lead to increasing requirements for real estate, and whilst current demand far out-weighs supply, development pipeline of life sciences space is steady, with new space expected to come to the market across 2024 / 2025. Whilst this will bring much needed supply and therefore choice for occupiers, it will not be enough to meet the demand we are expecting from life sciences companies. With market demand and supply fundamentals therefore expected to remain imbalanced, there are opportunities for investors that have an appetite for risk to look at value-add and opportunistic transactions in the market. Joint ventures between investors and local developers have proven successful in developing fit-for-purpose life sciences stock to the market, and more of this is expected. Local governments also have a role to play, particularly through offering funding and incentives for private developers in a bid to catalyse supply.

The clustering of activity is dependent on a number of factors, but a big part of success lies in the depth and diversity of a location's real estate market. By having the necessary space for all of the activities that life sciences companies need, they can focus on their key task: providing solutions to meet our healthcare needs. Space requirements range from labs to manufacturing to office, and having the availability of space across all of these asset types is key to enabling and maximising company growth.

By also comparing talent, funding and the corporate ecosystem alongside the real estate backdrop for the 41 clusters we analysed across Europe, it is possible to identify key strengths overall. Whilst tiering clusters acts as a guide to performance, it can also be used to highlight opportunities. We envisage that top clusters will inevitably strengthen, building on decades of growth, but several markets have moved up tiers e.g. "Emerging" to "Established" or "Established" to "Advanced". Paris and Berlin are clear examples of the speed at which clusters can grow, with both becoming "Advanced" markets this year. Both cities have seen growing interest from national and international investors and developers, driven by the academic and funding credentials that already existed.

In addition to top-ranked clusters, there are opportunities in "Emerging" clusters driven by organic company growth. Successfully capitalising on these opportunities will require a deep understanding of the local dynamics. Therefore we expect local partnering with existing private-public ecosystems to be key in order to insure new development opportunities meet local needs.

Small and mid-size corporates exhibiting growth potential will be the prime targets for landlords within their buildings. Larger pharmaceutical companies are expected to adopt a more cautious short-term approach when considering the different upcoming clusters for their strategic R&D locations. They will undoubtedly be willing to position themselves at the core of the most vibrant life science ecosystems, which in turn will further strengthening those clusters.

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