

Research EMEA

# EMEA Life Sciences Cluster Outlook 2023



# Welcome to the EMEA Life Sciences Cluster Outlook 2023

The Life Sciences industry has transformed in the last few years, with significant growth in the sector catalysed by requirements for medical advancements, improving therapies and technologies, and strong capital investment. With these driving the sector forward, real estate requirements have also evolved with growth from both occupiers and investors in this space. Whilst there has been some slow-down in activity in 2022, the life sciences sector has shown a level of resilience, with growth achieved despite a backdrop of economic uncertainty and caution.

Science doesn't stop, and investment in new innovations and advancing medical technologies will continue to drive the industry forward over the medium-to-long-term. Further growth is expected, as continued interest and demand is not likely to diminish, particularly given the countercyclical nature of the life sciences sector.

In this report, we look at the key investor and occupier trends that are shaping the European life sciences industry and identify key market clusters.

The first report in our series



focuses on lab and office space, but the life sciences sector also encompasses other building types, including manufacturing spaces. In addition, the report specifically focuses on western Europe, given that activity in other EMEA markets is still at a nascent stage compared to these cluster markets. Whilst research data is limited in these wider EMEA locations, from a business perspective, JLL provides occupier and landlord services across all life sciences building types, and EMEA geographies.

Using our bespoke tier ranking system and cluster composition matrix, we explore top trends and factors behind each of the key European life sciences clusters. From this, we have identified three tiers of clusters: advanced, established, and emerging, and have analysed these against each other to demonstrate where particular clusters show strengths. We envisage that top clusters will inevitably strengthen, building on decades of growth, but with several new 'seed markets' emerging. 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.

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**Hannah Dwyer** 





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# Key Findings

- Current industry **fundamentals are relatively healthy**, with strong development pipelines, unmet medical demand, new modalities, and a steady stream of money flowing in through VC funding. Science doesn't stop.
- Demand and supply imbalance across investor and occupier markets is limiting opportunities and is driving up rents and values. Investors have started to respond to this by creating new stock through development and repurposing, in attempt to bring new supply to the market.
- The old adage of **location, location** prevails, with clusters, increasingly those in urban locations, a key focus for occupiers. Europe is dominated by advanced clusters, but established and emerging markets present opportunities through strengths in some key fundamentals.
- **ESG** is shaping the sector from investors to occupiers and across all types of life sciences buildings. Human-centric, sustainable, conscious, and tech-enabled real estate that aligns with companies strategies and growth plans are playing out in the life sciences industry.
- Across the sector, **partnerships and collaboration** is emerging as a key theme, with investors looking to form joint ventures with developers, corporates and academic institutions. Also as the sector matures, new dedicated science & tech-led real estate platforms and funds are being created. Occupiers are also looking to partnerships to augment key skills and reduce costs, particularly through outsourcing of 'back office' functions.

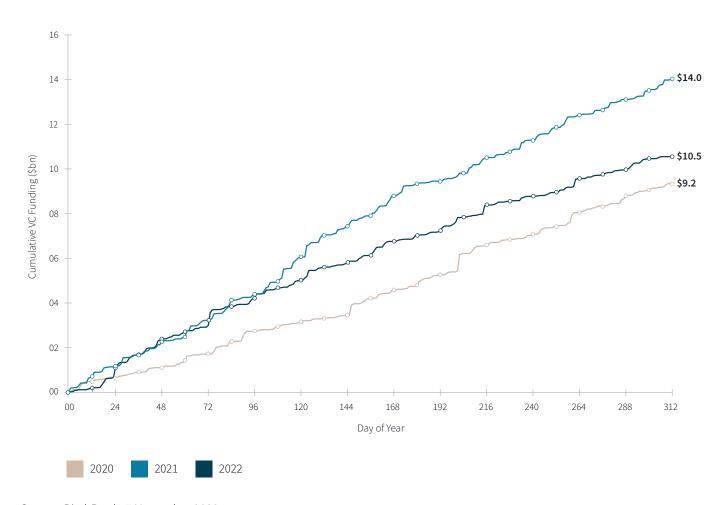
# Wider Market Context



The wider economy in 2022 has been challenging and uncertain, particularly so in Europe. Faced with the continued war in Ukraine, escalating sanctions on trade with Russia, China's continued zero-Covid policy, and inflation at multi-decade highs, businesses in life sciences have faced a confluence of headwinds that are impacting growth, costs, supply chains, and the ability to plan. This has been felt across investor, occupier, and funding markets in the last 12 months.

Funding into life sciences in 2022 was lower than the previous year. Unprecedented venture capital investment into life sciences activity in 2021 broke all previous records and has set a high bar for activity. A slowdown in 2022 has impacted funding totals from a number and a volume perspective. Whilst activity is 24.7% lower than 2021 YTD, it is still higher than corresponding 2020 figures (+13.0%). There is still pent-up capital yet to be deployed across the sector which will support activity as we enter into 2023.

# Cumulative VC raised by European life sciences companies, daily, YTD



Source: PitchBook, 7 November 2022

## There is still pent-up capital yet to be deployed across the sector which will support activity as we enter into 2023.

A decrease from last year's activity was expected, and the effect has been a recalibration in the industry, with a stabilising of growth and an emphasis on alternative exit strategies, such as mergers and acquisitions and strategic partnerships. M&A activity in YTD 2022 has

already exceeded 2021 by 4.8%, with \$36.8bn worth of activity.

Initial Public Offering (IPO) activity has also taken a hit. IPO data can be used to gauge market performance, as it shows how many companies have grown to a level that they can 'go public'. 2021 was a particularly strong year for life sciences IPOs, with 111 companies going public, with a total of \$9.1bn raised. This compares to just 30 IPOs in YTD 2022, raising a total of \$0.1bn.



# Real Estate Markets



## Investment Market Trends

Investor interest has increased significantly in the last 2-3 years, directly driven by the COVID pandemic, which has put the sector in the spotlight. In addition, as pricing for 'core' traditional real estate assets has intensified, we have seen greater interest in alternative sectors like life sciences. Investors in the sector are varied and backed by a range of capital, from Sovereign Wealth Funds (SWFs), Private Equity and other institutional investors, to private investors.

**Demand** is dependent on the investor type: opportunistic investors are focused on value-add, others are looking for risk-adjusted returns through joint ventures, and others are prepared to move up the risk curve with development-led returns. Some new entrants are experienced in office and / or private rented sector investments and are branching out into life sciences and lab buildings, with close alignment between these sectors.

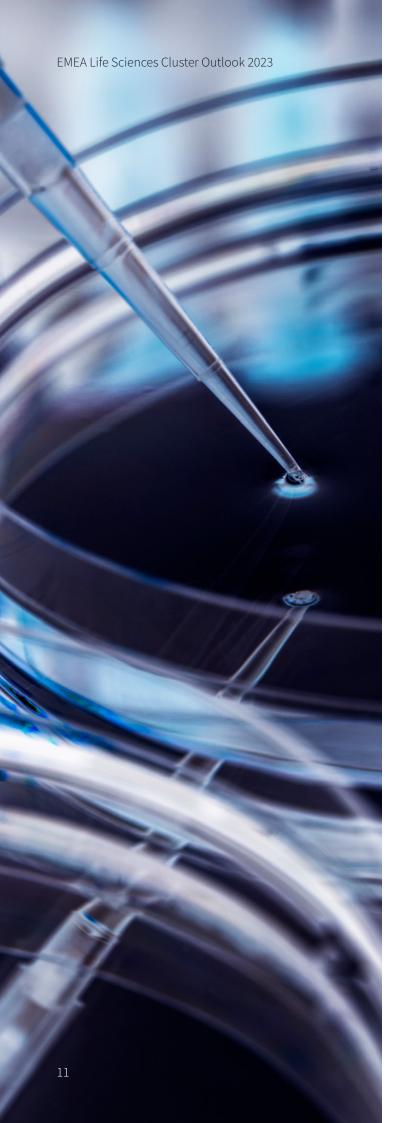
Whilst still a relatively small sector in terms of investment volume share, there is a lot of capital

chasing investment opportunities, and for many leading markets in Europe, **demand outweighs supply**. Despite nearly \$55 billion in real estate capital targeting Europe, in some key markets there is very limited purpose-built lab stock available for acquisition.

This **supply and demand imbalance** has driven up pricing and compressed yields in key markets. Investors are now looking to emerging markets with strong fundamentals for less competition, but still want consistent returns on investment. Investors will focus their capital on long-term structural themes for real estate over short-term cyclical ones.

To 'create' stock, investors are turning attention to development or conversion of assets. Joint ventures between investors and developers, partnering up for knowledge and equity sharing have emerged, sometimes between public and private sectors.





# Leasing Market Trends

**Demand** across life sciences **occupier markets** is **science-led**, spurred by accelerations in company and business growth. Predominately, this growth has come from pharma and biotech companies that need lab space, with growth of existing companies, and increases in new companies being founded. In addition, expansion of contract research and contract manufacturing organisations (CROs and CDMOs) that service the pharma industry by providing outsourced support, is also a key driver of leasing demand.

Occupiers are forced to rethink their supply chain strategies, onshoring where possible, or moving towards more localised hubs in well-connected locations.

**Location** has always been a key real estate focus for life sciences companies. Clustering of like-minded businesses, that benefit from the network effects of efficiency gains, talent pools, infrastructure, academic institutions, and innovation is directly correlated to improved business performance and outcomes.

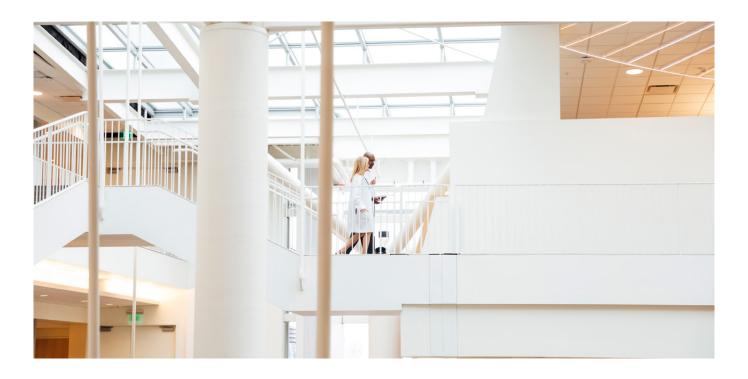
In many clusters across Europe, science has typically been conducted in out-of-town parks and although these parks continue to grow, there has been a noticeable shift in this trend towards increasingly **urbanised life sciences hubs.** 

City centres have the greatest concentrations of labour, along with the amenities, transport, and services to meet the needs of this employee base. In addition, global macro-economic and geopolitical issues are forcing occupiers to rethink their supply chain strategies, onshoring where possible, or moving towards more localised hubs in well-connected locations.

Whilst occupier requirements are highlighting a flight to **quality** of buildings, the limited supply available means that occupier choice is constrained, and expectations cannot always be met. Undersupply is a fundamental issue across the sector and all types of life sciences space.

This is driving **rental growth** across markets, particularly for the best space in the strongest clusters. This will take time to balance out, with some new supply coming on stream in some key growth markets. In the interim, flexible options either through flexible space providers, or evolving incubator-type space, offer a level of flexibility for companies that are experiencing above target, or indeed below target growth plans. Likewise, companies are sub-leasing parts of their portfolio for short periods of time, with a view to taking this back if growth is achieved.

Decreases in biotech stocks and the slowdown of venture capital at the start of 2022, has created a greater focus on **capital efficiency** which has meant extra consideration on real estate expansion. For some large pharma and biotech companies, this change to capital efficiency has come through the increase in sale and leaseback deals, with the intent to free up equity.





# Occupier Trends

After a period of rapid change in the life sciences industry, comes an opportunity for corporates to pause and think strategically about the future. Corporate Real Estate (CRE) leaders are now at a **critical decision point**, which requires connected thinking about work, workforce, workplace, and portfolio to understand how real estate can best align with corporate priorities.

Life sciences as an industry is driven by **technology**. It is the core of knowledge development, and the enabler of medical

advancements and products that companies are developing. For example, artificial intelligence used in product pipelines to increase efficiency and effectiveness of medicines, is revolutionising drug discovery and development. From a real estate perspective, this can influence the way companies partition the lab component of their portfolios. CRE leaders and fund managers are also asking a greater depth of information about their portfolios and using data and technologies to better understand their property portfolio and workforces.

**Sustainability** has become a key consideration for life sciences companies. The sector uses significant volumes of energy and water compared to other commercial real estate sectors, and they are looking at their real estate and operating processes as a method to cut emissions.<sup>1</sup>

There is a distinction between operational (produced through day-to-day operations of an asset) and embodied carbon (lowering energy use from construction or fit-out), but both are needed to reduce climate impact.

**Human-centric design principles** and **hybrid operating models** are also rising up the agenda
across all types of life sciences spaces. Whilst
scientists need to be in lab settings to do certain
tasks, there is still an emphasis on the role of the
workplace, and how better companies can support
the experience of their workforces, including hybrid

working. For life sciences, decision-makers will drive action against multiple CRE priorities over the next three years, with a focus on sustainability and technology.

Partnerships are emerging as a key method for augmenting existing real estate and workforce skills for life sciences organisations. The key areas where decision-makers are most likely to seek external partnerships are: data analytics and insights, health and wellbeing services, facilities management, and renewable energy supply and sourcing. With pressure from rising costs, this can be in the form of outsourcing, as life sciences companies look to outsource as many "back-of-house" functions as possible, particularly where "in-house" services are struggling to manage some facilities themselves.

# Between now and 2025, healthcare and life sciences organisations are focused on the adoption of sustainability and CRE operations technologies



#### Q: Which of the following technologies does your organisation plan to introduce between now and 2025?

Source: JLL Future of Work Survey, Healthcare & Life Sciences Report 2022 (N=94 respondents CRE decision-makers across 13 markets)

<sup>1</sup> https://www.jll.co.uk/en/trends-and-insights/research/life-sciences-achieving-environmental-sustainability

# Life Sciences Cluster Analysis



## Cluster Tiers

Markets across Europe continue to mature and grow. For the first time we have introduced a bespoke tier ranking system and cluster composition matrix, which uses key real estate market and demand data to tier clusters around Europe.

Our analysis is defined by the key fundamentals of a successful life sciences ecosystem: **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 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.

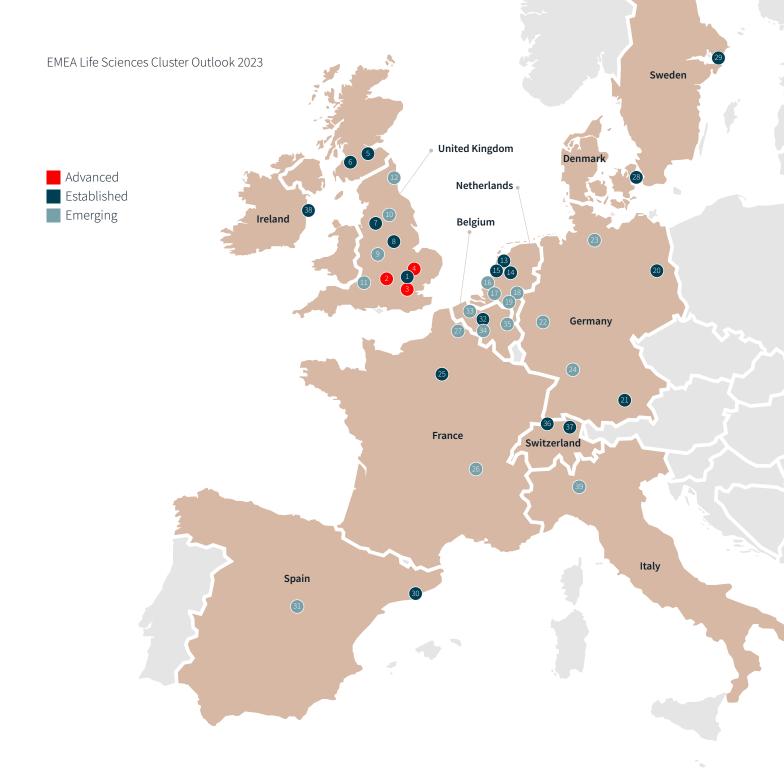
#### **Established**

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.





#### UK

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

#### **Netherlands**

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

#### Germany

- 20. Berlin-Potsdam
- 21. Munich
- 22. Ruhr Valley (Cologne, Düsseldorf, Essen, Dortmund)

- 23. Hamburg
- 24. Rhein-Necker (Heidelberg-Mannheim)

#### France

- 25. Paris
- 26. Lyon
- 27. Lille

#### **Denmark-Sweden**

- 28. Medicon Valley
- 29. Stockholm-Uppsala

#### Spain

- 30. Barcelona
- 31. Madrid

#### Belgium

- 32. Greater Brussels
- 33. Gent
- 34. Charleroi
- 35. Liège

#### **Switzerland**

- 36. Basel
- 37. Zurich-Zug

#### **Ireland**

■ 38. Dublin

#### Italy

■ 39. Milan

# Looking under the microscope at clusters

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. We envisage that top clusters will inevitably strengthen, building on decades of growth, but with several new 'seed markets' emerging.

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.

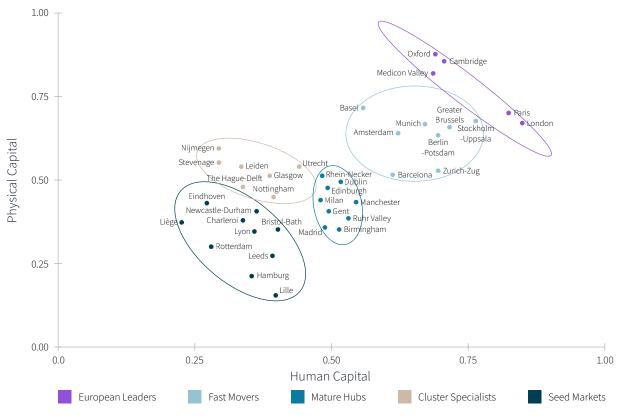
#### **Human Capital**

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.

### **Cluster Composition Matrix**



Analysing clusters around these two key metrics has created 5 key groupings:

European Leaders – 'advanced' tier markets which have strong fundamentals and are dominant markets for life sciences research and development. Whilst all 'leaders', markets can have different strengths in this group, for example, Oxford and Cambridge have an exceptionally rich provision of lab space alongside a deep funding environment and London and Paris have deep talent pools and existing company base.

Fast Movers – mostly composed of 'established' tier markets, where strong fundamentals in either physical or human capital are positioning the cluster for fast growth. These markets will likely continue to go from strength-to-strength building on existing characteristics. For example, expansive life sciences stock and development pipeline in Amsterdam and Munich, or a booming start-up community in Berlin-Potsdam and Barcelona.

Maturing Hubs – comprised of 'established' and 'emerging' tier clusters with existing solid hubs for life sciences activity. These markets have many of the characteristics of the fast movers but may lack in a one or more key fundamental. The clusters in this grouping are rapidly evolving and positions

may change. quickly. For example, Manchester is an established market in the UK, with great real estate provision and existing company base, but lower VC investment and minimal start-up numbers in recent years has kept the cluster out of the fast movers grouping.

Cluster Specialists – this includes clusters in our 'established' or 'emerging' tier that are often strong in a single fundamental, but are still improving in other areas. This often occurs when there is a unique research specialism driving the cluster. For example, with Stevenage's specialism in cell and gene therapy or Leiden's mature real estate market liquidity.

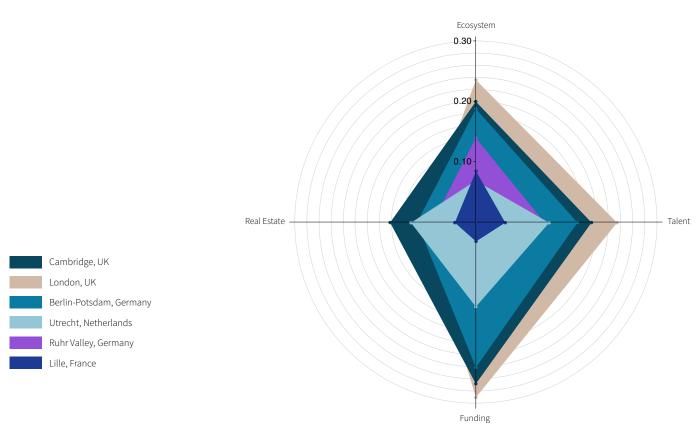
Seed Markets – comprises mostly of 'emerging' tier markets at different stages of development, that have specific fundamentals that are priming the cluster for growth or continuing on in a steady state. Examples include: Lyon which has a burgeoning district of large corporates and research institutes that is beginning to anchor smaller company activity; or Bristol and Bath, where the exceptional spin-out and start-up activity fueled by the Universities commercialisation has sparked the cluster into a rapid growth phase.





# Case Studies

For each of the three cluster tiers, we have presented two case studies. We have ensured that the case studies span across each of the five composition groupings, to demonstrate how different fundamentals can alter the tiering and grouping of a cluster. Whilst we have not included all markets, the range of locations presented, provides a good mix of clusters and the different types of market drivers.



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



## Advanced Cluster Market – A European Leader

### Cambridge, UK (part of 'Golden Triangle')

#### **Ecosystem**

Cambridge is a world-renowned life sciences cluster, with a mature company ecosystem alongside a flourishing start-up community.

#### **Talent**

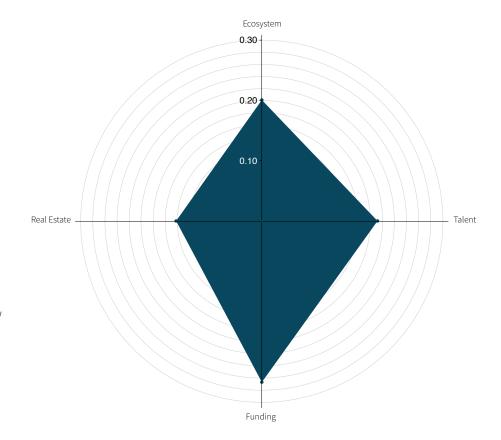
The University of Cambridge has a deep history of academic excellence and provides exceptional talent and research related intellectual property to the surrounding cluster.

#### **Funding**

Deep VC and public sector backing has allowed young companies to grow rapidly and bring novel IP to market.

#### **Real Estate**

Cambridge has a large number of science parks with a rich provision of wet-lab facilities for a mixture of early-stage and mature companies.



#### Outlook

Cambridge will remain a significant market for life sciences activity but will need to address the supply-demand imbalance in the short term to stay relevant and capture the burgeoning demand.



## Advanced Cluster Market – A European Leader

### London, UK (part of 'Golden Triangle')

#### **Ecosystem**

Home to more life sciences companies than anywhere else in Europe, London has shot to an advanced status in short time.

#### **Talent**

A large existing working population coupled with four major science universities, each ranking highly globally for research, provides a flow of talent into the amenity rich capital.

#### **Funding**

The capitals strong financial sector has resulted in enormous volumes of VC flowing into companies at multiple stage of growth, the highest levels seen in Europe.

#### **Real Estate**

Purpose built lab space has been limited and mostly clustered around academic-run incubators but there is significant pipeline on the horizon.

#### Outlook

London will continue to thrive as an early-stage company environment with real estate provision driving research environment. Growth and maturity may be constrained by supply in the short term.







## Established Cluster Market – A Fast Mover

### Berlin-Potsdam, Germany (the leading cluster in Germany)

#### **Ecosystem**

Berlin-Potsdam has bolstered in recent years due to a flourishing early-stage start-up ecosystem, supporting by existing established corporates such as Bayer.

#### **Talent**

As with much of Germany, well supported research institutes and the four major science universities effectively support the early-stage ecosystem through funding, talent, and space.

#### **Funding**

Second largest VC amount raised by companies in continental Europe, behind Paris, and nearly a third of the German total.

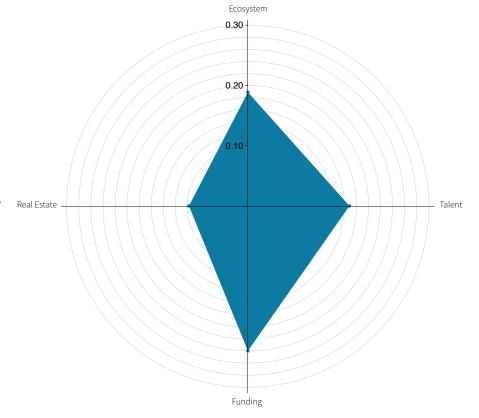
#### **Real Estate**

There are numerous mature science parks across the capital which are mostly fully occupied, where new opportunity will likely come from the wider Potsdam area of the cluster.

#### Outlook

Leveraging the larger cluster in Potsdam to accommodate the growing ecosystem and building on the deep public back for life sciences research will continue to see the cluster mature.







## Established Cluster Market – A Cluster Specialist

### *Utrecht, Netherlands* (one of the strongest Dutch markets)

#### **Ecosystem**

Relatively low number of companies but highly specialised in life sciences with a good translation of research through spin outs.

#### **Talent**

Utrecht University is the strongest university in the Netherlands for life sciences research activity and has three commercialisation entities: Utrecht Inc, Utrecht Centre for Entrepreneurship, and Utrecht Holdings.

#### **Funding**

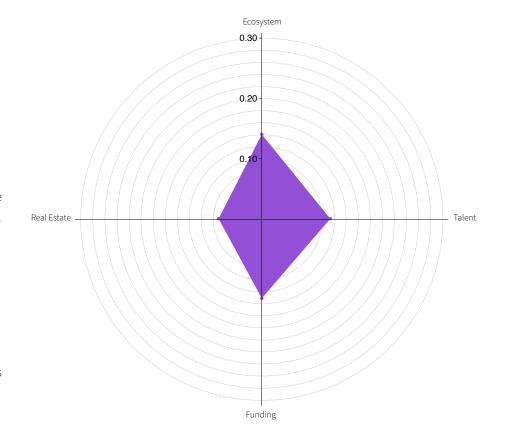
Utrecht companies have seen a fluctuation in VC through time despite several large investments, showing investor confidence in the city remains constant in the long run.

#### **Real Estate**

Intense clustering activity of Utrecht University, its Medical Centre (UMC), five faculties of the HU University of Applied Sciences Utrecht and the Netherlands proteomics Centre (NPC), at the Utrecht Science Park.



Utrecht's lower company numbers are mitigated by a strong academic base, good public funding, and mature, appropriate real estate fundamentals, priming the cluster for future growth.





## Emerging Cluster Market – A Mature Hub

### Ruhr Valley, Germany

(Cologne, Düsseldorf, Dortmund, Essen, Ruhr)

#### **Ecosystem**

The Ruhr Valley is a hub of wellestablished corporates who have focused much of their manufacturing and production in the region.

#### Talent

The large-scale nature of the cluster allows for several globally ranked universities such as the University of Bonn and University of Cologne to provide talent to the region.

#### **Funding**

The Ruhr Valley's established and R&D service focus does result in the cluster securing less venture capital as companies are mostly revenue generating or margin-driven.

#### **Real Estate**

The large geography of the cluster results in a number of very large science parks but not many of these are commercially facing.

#### Outlook

Given the quantum of cities, space, and proximity of the cluster to the Netherlands, Belgium and France, as well as the strong anchorage, the potential for an established ecosystem to develop is high – the next step for the cluster's maturity would be increased inward investment.

Real Estate

Talent

Funding

Ecosystem

0.30



## Emerging Cluster Market – A Seed Market

### Lille, France

#### **Ecosystem**

Small company ecosystem that is heavily focused on medtech given the cluster of activity around three major hospitals.

#### **Talent**

University of Lille is the centre for research and development and secures most public funding to life sciences – providing a steady stream of talent and IP.

#### **Funding**

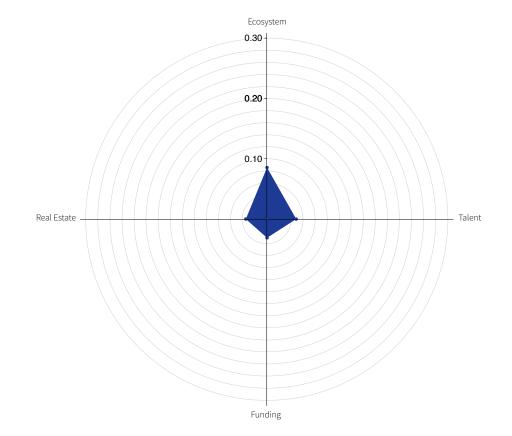
Lille is very nascent in its investment market, but there have been some larger investments (>\$25M) in recent years which is positive for future growth in the cluster.

#### **Real Estate**

The Eurasanté region in the southwest of the city, is a focal point of research activity due to the special zoning regulations.

to become an established cluster but there is still a way to go. The increased development of the Eurasanté region and an opening up to developments from commercial real estate would be an avenue to help mature the cluster.

Outlook Lille is a growing life sciences market with the fundamentals



# Outlook





The life sciences industry has experienced a slow-down in 2022, but this comes on the back of two exceptional years of growth. With an uncertain economic backdrop, underpinned by rising costs and geopolitical uncertainty, the outlook for life sciences is that it will continue to grow, but at a more modest pace than we have become accustomed to.

Long-term, the fundamentals for the life sciences occupier markets remain strong and unchanged. A greater consumer-reliance on medical devices, an ageing population, and rapid innovation and technological advancements are set to reinforce continued growth in the sector. These occupier trends are underpinning strong growth across corporates in the life sciences sector, which in turn is driving occupier and investment market demand.

The pent-up demand for space in Europe continues unabated, driving the need to unlock suitable stock. This provides a real opportunity for clusters across Europe to grow and become more established, especially given the strong fundamentals that many locations already possess. Clusters that embrace the liquidity of

commercial markets alongside supporting their existing life sciences offering, will likely see the greatest growth. In addition, we are starting to see an interest in other EMEA markets, but activity is nascent, and clusters remain relatively small.

Our tiering system which shows that, based on maturity, clusters across Europe are on a journey, some advancing quicker than others from a growth perspective. Our composition matrix, has highlighted how key markets stack up against each other in certain areas, showing that clusters can move up the matrix based on growth in a particular fundamental or specialism. The maturing hubs, cluster specialists and seed markets have ways in which they individually stand out, but they fall short in other areas where top markets excel.

We expect activity in the sector to remain steady in the next 12 months, although economic uncertainty, continued investment and occupier supply constraints, and a reduction in VC investment will impact activity. The market will proceed to produce healthcare advancements, but caution will remain a constant.

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JLL's research team delivers intelligence, analysis and insight through market-leading reports and services that illuminate today's commercial real estate dynamics and identify tomorrow's challenges and opportunities. Our more than 400 global research professionals track and analyze economic and property trends and forecast future conditions in over 60 countries, producing unrivalled local and global perspectives. Our research and expertise, fueled by real-time information and innovative thinking around the world, creates a competitive advantage for our clients and drives successful strategies and optimal real estate decisions.

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JLL Life Sciences provides specialist advice to real estate owners, occupiers, investors and developers in the science sector. The dedicated team utilises a deep industry knowledge and extensive experience to provide clients with the best possible advice in connection with acquiring, developing or disposing of sites, creating portfolio strategy, connecting with occupiers or finding the optimal space to locate. For further information, visit https://www.jll.co.uk/en/industries/life-sciences

