

EMEA Life Sciences Industry Perspective and Cluster Report

**Real estate growth despite wider
economic uncertainty**



Research

EMEA
2025

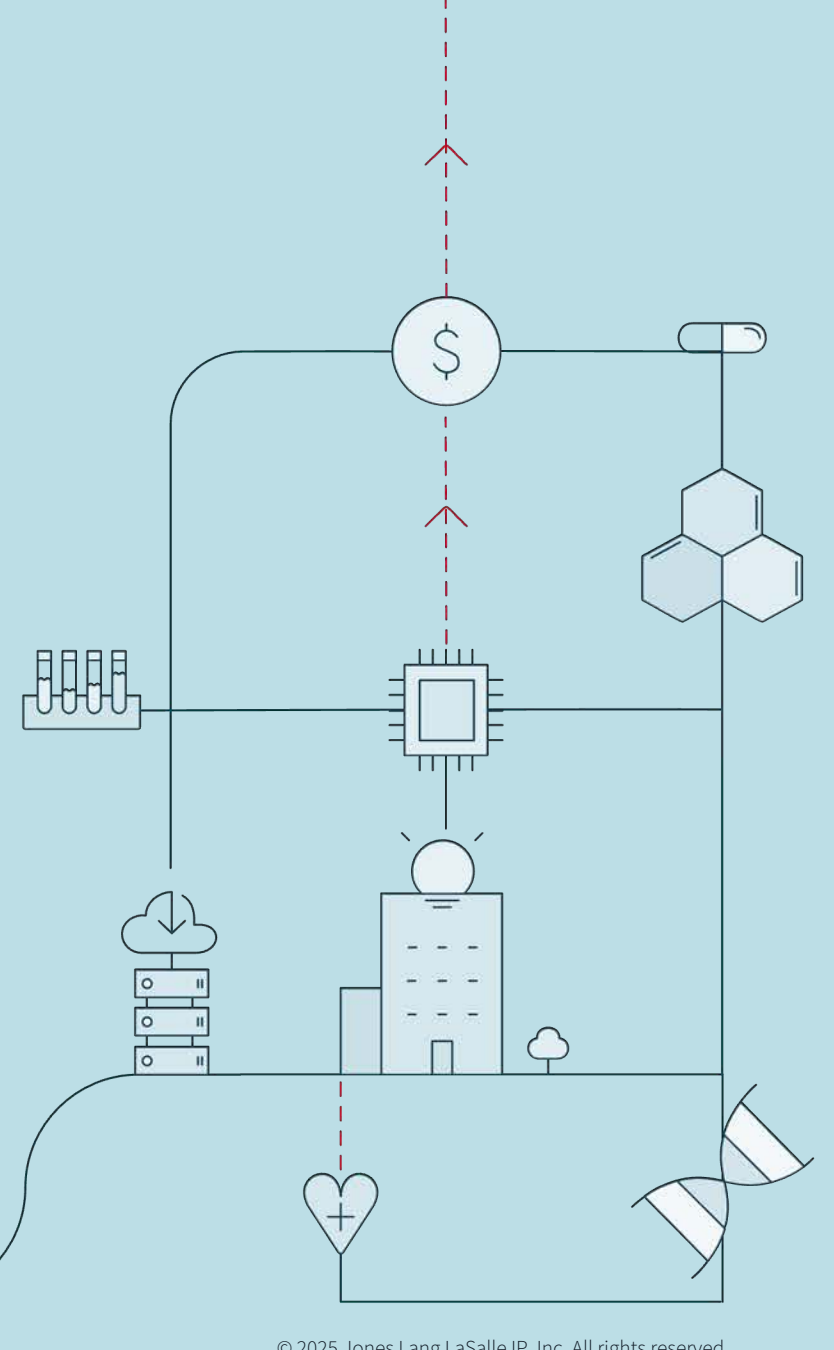
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Key findings

- 1** Increasing global competition and tariff uncertainty are incentives for Europe to build on its strong life sciences R&D and manufacturing credentials.
- 2** Rising Venture Capital (VC) flows are a testimony to Europe's innovation capacity in the sector. Because VC is now more concentrated, its effect on real estate demand is not as broadly distributed as it was in the past.
- 3** AI is having a dual impact; on scientific discovery and on real estate management. Strategically embedding AI and automation in real estate is challenging, but it will increase efficiency from research to distribution.

- 4** The sector's commitment to sustainability is rapidly gaining pace and will drive demand for greener lab buildings.
- 5** New supply delivered by investors is addressing Europe's historical lab space shortage, progressively shifting away from public or owner-occupier driven models. Top tier assets in prime locations will prevail in a more stratified real estate market.
- 6** Life sciences clusters from Europe to the Middle East and Africa have distinctive strengths. While the Golden Triangle, Johannesburg and Riyadh lead their respective regions from a biopharma research perspective, other locations thrive in the digital health or manufacturing segments of the industry.



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2 2025 European Cluster Analysis

Mapping Europe’s top-tier clusters

2024 subsector analysis:

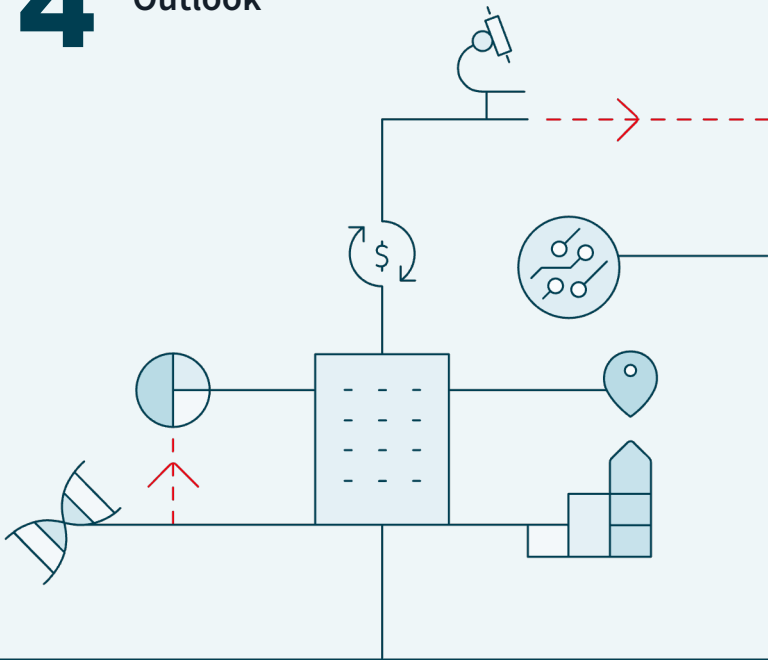
- 1. Biopharma research
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Middle-East

Africa

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Navigating the report

This report explores the key drivers shaping Europe’s life sciences industry and how this is impacting real estate markets.

This year we have established three separate subsector rankings benchmarking 43 locations based on criteria relative to:

- Biopharma research and development (R&D),
- Digital health and tech R&D, and
- Pharmaceutical manufacturing

This three-dimensional ranking aims to highlight the clusters’ strength in each subsector for which the real estate requirements vary. Clusters best ranked for biopharma R&D will primarily offer or require the development of lab research space, while those highly ranked for digital health and tech R&D will need adequate office space, and finally the best manufacturing locations require warehouse and distribution assets.

As the life sciences market develops globally, countries in the Middle East and in Africa are increasingly looking to develop their own capabilities in the sector. As such, for the first time, we have included an overview of the life sciences markets in the Middle-East (focusing on the Gulf Cooperation Council countries) and in Africa, looking at some of the main regional city-clusters.

01

Trends

1 An increasingly competitive global innovation landscape

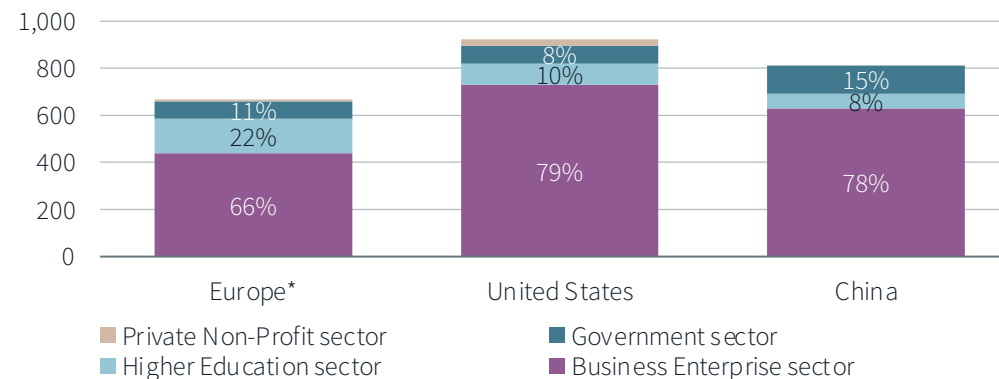
The Draghi report on the future of European competitiveness states that the region's overall capacity to innovate will be crucial for it to maintain its status as a global economic powerhouse. As such, life sciences is a key contributing sector for Europe, where research efforts will be key to gaining a wider market share.

Gross Domestic Expenditure on Research & Development (GERD) represents the overall amount of money spent within a country's borders on R&D across the private and public sectors. Life sciences is an extremely R&D-intensive sector, for which GERD is a key indicator to evaluate a country's innovative capacity.

In 2022, the United States spent \$924bn on R&D, while China spent \$812bn, and Europe \$668bn. In Europe, the "Higher Education and Government" sectors are responsible for a third of GERD, a much higher proportion than in the US (18%) or China (23%). This can, to some extent, explain why the development of many life sciences real estate hubs in Europe has historically been driven by the public sector, who often own much of the real estate.

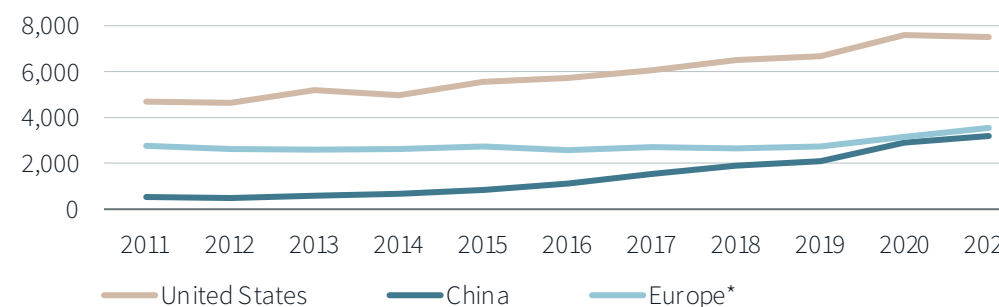
The number of applications to the Patent Cooperation Treaty (PCT) gives a more precise indication of the competitiveness of a country or region in the biotechnology sector on a global scale. It can also provide insights into the future direction of the regional life sciences sector performance, especially if there's a trend of increasing biotech patent applications. The US leads by number of patent applications in the biotechnology sector testifying to the depth of its life sciences sector. China is rapidly gaining pace; its number of patent applications increased sixfold between 2011 and 2021. Over the same period, the US and Europe registered application growths of 60% and 29% respectively.

Gross domestic expenditure on R&D (in \$bn)



Source : JLL Research on OECD MSTI 2022 (latest available data). *Europe: EU + UK and Switzerland.

Number of patent applications to the PCT in the biotechnology sector



Source : JLL Research on OECD MSTI data. *Europe: EU + UK and Switzerland.

2 Tariffs bring uncertainty to the pharmaceutical sector, whilst highlighting Europe's leading trading position

President Trump has stated he wants to reshore medicine and pharmaceutical manufacturing to the US. His favoured policy tool to achieve this is import tariffs¹. Consequently, the industry is exposed to substantial risk of potential increases in U.S. tariffs on imports.

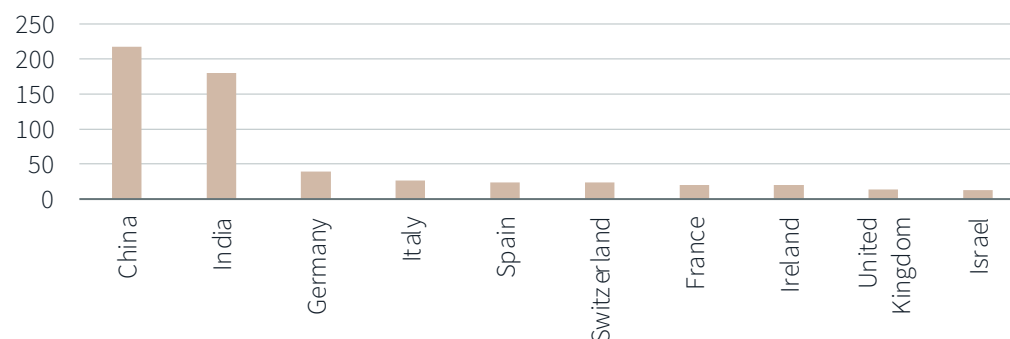
The imposition of a tariff on U.S. pharmaceutical imports would harm pharmaceutical manufacturers and U.S. consumers. By weight, more than two thirds of US pharmaceutical imports come from China (generics) and India (APIs). These goods have low margins and are unlikely to be viable for U.S. domestic production. As such, tariffs will push up the price paid by patients, hospitals and insurance companies, but will do little to increase domestic pharmaceutical manufacturing.

In contrast, Europe's exports of pharmaceutical products are mainly branded goods with higher margins, leaving European manufacturing exposed to margin compression in the short-term and relocation pressures in the longer-term. By value, Europe accounted for 74% of all pharmaceutical products traded globally in 2023 and 75% of U.S. imports. Ireland, Germany, and Switzerland have strong pharmaceutical manufacturing bases where both European and America companies produce for global markets. Share prices and market capitalisation of these companies have been negatively affected in anticipation of future, higher U.S. import tariffs.

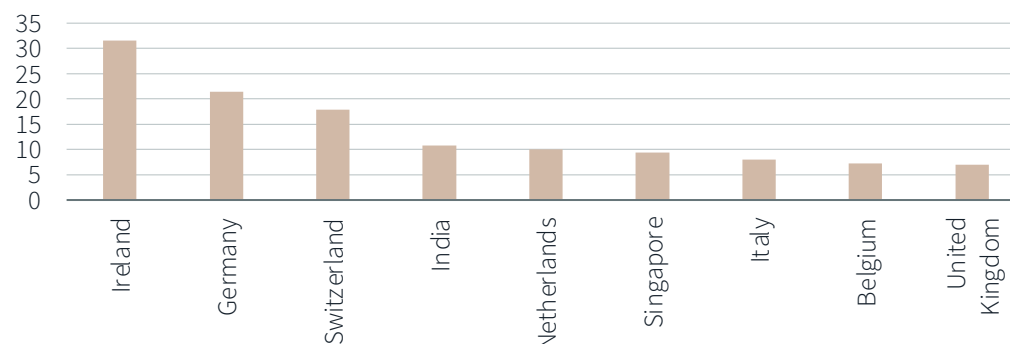
Longer term, tariffs will affect the decision of whether to manufacturing in the US, but they are not the only determinant: high labour costs, availability of talent, environmental regulations, and future U.S. trade and fiscal policies also matter. New facilities take several years to complete, and policy is currently too dynamic and unpredictable to base long-term decisions on. Several pharmaceutical companies have nonetheless announced substantial financial commitments to invest in the U.S. in recent months: these may not be the last, but it is unlikely that tariffs were the only factor in their decision.

1. As of early June 2025, US tariffs had yet to be applied to pharmaceutical products.

U.S. 2023 import trade weight (kt)

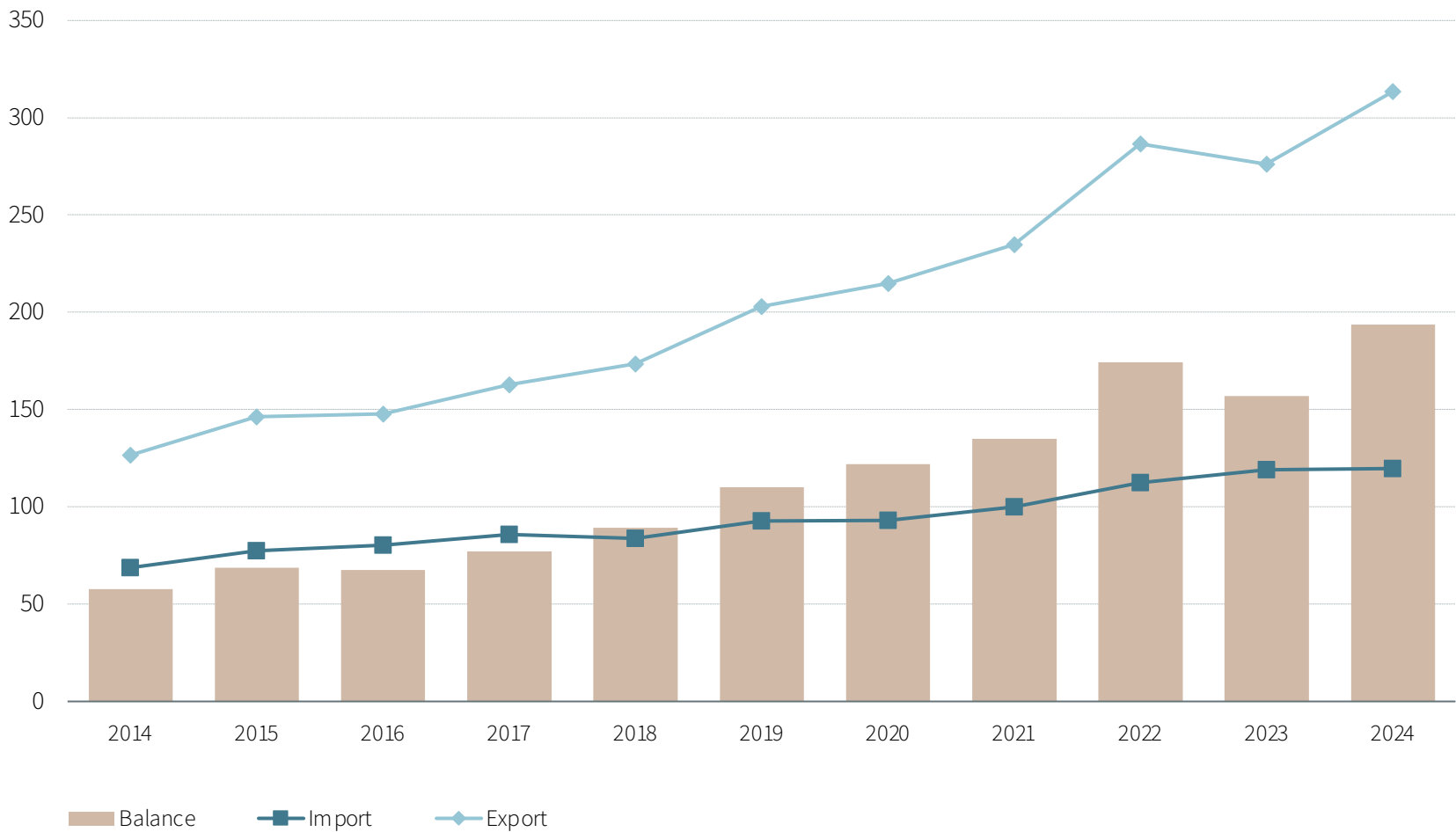


U.S. 2023 imports trade value (\$bn)



Source: JLL EMEA life sciences research on OEC 2023 data (latest available data)

EU trade in medicinal and pharmaceutical products, 2014-2024 (€bn)



Source: Eurostat.



3 Venture Capital is rising but morphing

The predominant source of funding for commercial lab users is risk capital, in particular venture funding. Understanding the nature of venture funding is critical to forecasting potential demand for lab space.

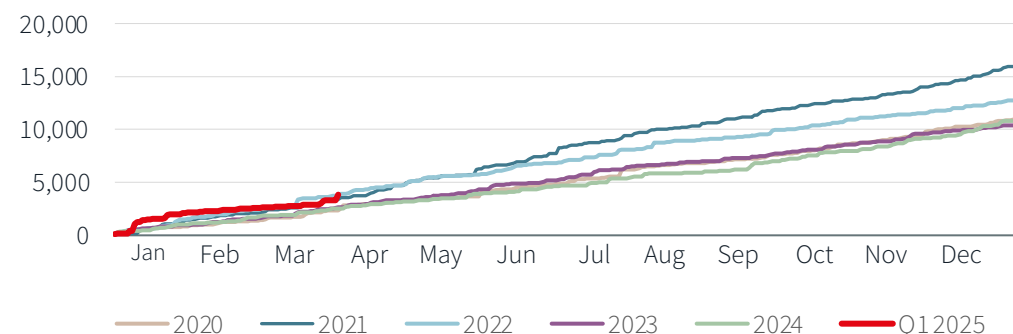
As we predicted in last year's report, 2024 marked a slight uptick in Venture Capital (VC) in Europe, as it did in the US. 2025 has started at an above-average pace with €3.8bn raised by life sciences companies over the first quarter, the highest registered first quarter on record and the highest quarter since Q4 2021. Therefore, 2025 could prove to be a near record year if the next quarters see similar levels of funding.

From 2022 to mid 2024, the high inflationary environment slowed capital flows targeting the sector. This led to a relative consolidation of the corporate landscape as many young scaling companies struggled to refill cash runways to pursue their research. VC firms are now sitting on substantial pent-up capital that, combined with lower interest rates, should help to maintain the increased volumes targeting the sector as seen over the first quarter.

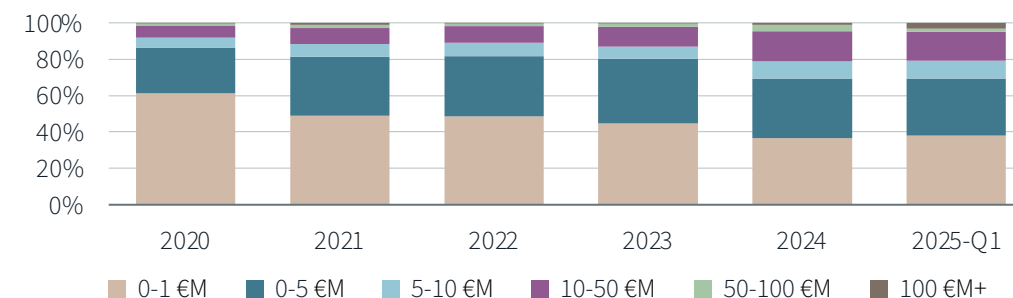
While VC is rising, there has been a progressive shift in the nature of the funding. VC is targeting more established companies, those that have demonstrated their success with robust scientific foundations, capable leadership teams, and promising product pipelines. As a result, we are seeing larger capital flows concentrated among fewer companies. Over Q1 2025, eight mega deals (>€100m) were registered, accounting for €1.9bn or 55% of all VC raised. While these large-scale deals can drive significant real estate demand, the correlation between VC funding and real estate take-up is generally weaker when capital is concentrated in fewer companies, compared to when it's distributed across a broader range of scaling firms. Despite this, the robust beginning to the year is likely to boost sector confidence, potentially leading to increased VC-driven real estate activity in the coming months.

Cumulative daily VC

Cumulative VC (in €m)



VC deal count by size



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

4 Artificial intelligence brings hope of accelerating scientific breakthroughs

In 2024, a Nobel Prize in Chemistry was won for developing an Artificial intelligence (AI) model capable of predicting proteins' complex structures. This discovery holds enormous potential and is fuelling large M&A deals, strategic partnerships, and funding. Through the application of AI and Machine Learning in the drug discovery phase, companies can focus earlier on more promising molecules and hope to cut down the time and cost to get a drug to market.

The potential of AI is not limited to drug discovery. The McKinsey Global Institute (MGI) has estimated that Generative AI could generate \$60bn to \$110bn a year in economic value for the pharma and medical-product industries through gains in research and early discovery, clinical developments, operations, and commercial targeting.

Over the last few years, pharmaceutical companies have been actively adopting cutting-edge technological solutions, with a strong emphasis on AI and lab automation through acquisitions and partnerships. In November 2024, Recursion Pharmaceuticals acquired Oxford-based Exscientia, which develops an AI-based automated drug discovery technology aimed at accelerating preclinical drug discovery. The \$688 million M&A deal will enhance Recursion's pipeline of drugs in development while also giving it access to pre-existing partnerships with large pharma players like Sanofi and Merck KGaA.

VC targeting life sciences companies specialised in AI and machine learning in Europe is also on a strong growth path, reaching 100 deals and over \$500 million in 2024. This is however, much lower than levels reached in the U.S., where such VC investments averaged \$2.5Bn from 2020 to 2024.

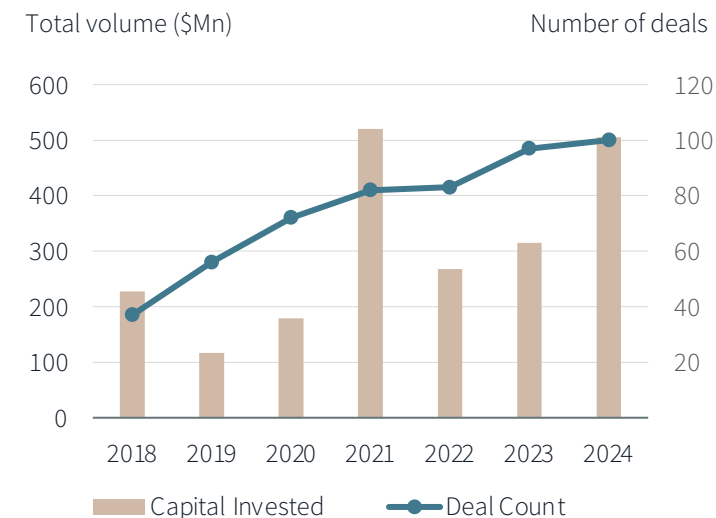
Finally, the AI focus on life sciences is likely to strengthen the position of tech giants within the life sciences industry, leveraging their extensive AI expertise and resources to shape the future of healthcare and biotechnology research. The "GAFAs" have long been making significant inroads into the life sciences sector with dedicated subsidiaries :

- Google (Alphabet) : Verily life sciences, Calico, DeepMind Health, Isomorphic Labs
- Apple : Apple Health division, ResearchKit and CareKit
- Facebook (Meta) : Several health initiatives through Meta Research
- Amazon : Amazon Pharmacy, AWS for Health

Errom's Law

The inflation-adjusted cost of developing a new drug roughly doubles every nine years.

VC targeting Pharma and Biotech companies involved in AI and Machine Learning in Europe



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

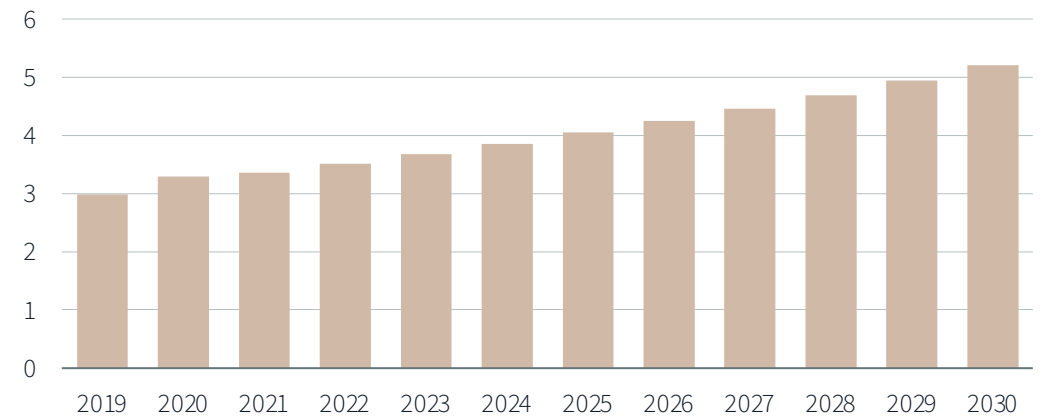
5 AI is transforming life science's real estate requirements

The growing implementation of AI and lab automation is having a direct impact on the design of life sciences facilities. Lab spaces are evolving, with a growing share of floor plates now allocated to computational research areas, and complementing traditional wet labs. The increasing integration of biological and computer sciences is driving demand for versatile, hybrid spaces capable of supporting both conventional lab work and data-intensive computational activities. These new environments reflect the changing nature of life sciences research, where digital tools and wet lab techniques are increasingly intertwined. As such 'Laboratory Informatics', a combination of technologies designed to optimise lab workflows, will play a growing role in life sciences corporate operations from R&D to manufacturing. The 'Laboratory Informatics' industry worldwide is expected to reach a projected revenue of \$5.2bn by 2030.

In response to these evolving requirements, it is increasingly common to see landlords offer a three-way divide of their leased units : 1/3 for wet lab space, 1/3 for write-up space and 1/3 of flexible space that can easily be fit-out as wet lab, dry lab or office space.

In our latest 2024 Future of Work Survey, 84% of the 145 "life sciences and pharmaceuticals" respondents believe that their workplace space will likely be equipped with the latest AI-driven technologies by 2030, yet only 51% of them believe that their corporate real estate (CRE) function has a strategy in place for embedding AI. This suggests that companies and landlords need to bolster their AI real estate capacities to best align their facilities to their core business operations.

Global 'Laboratory Informatics' market, 2018-2030 (\$Bn)



Source : Horizon Grand View Research

84%

of life sciences decision makers believe their workplace space will be equipped with the latest AI-driven technologies by 2030

But only

51%

believe CRE function has a strategy in place for embedding AI

Source : JLL Research. 2024 Future of Work Survey.

6 Real estate is key to achieving ESG targets

Life science companies are placing an increasing emphasis on achieving sustainability targets as part of their wider corporate strategies. According to the 2023 Science Based Targets Initiative (SBTI) Monitoring Report, the “Biotech, healthcare and pharma” sector saw the greatest year-on-year growth (222%) in the number of companies setting sustainability targets, from 23 to 74 companies. Over 3,400 labs are certified under the global ‘My Green Lab Certification’, considered the gold standard for lab sustainability practices and recognised by the United Nations Race to Zero campaign as a key measure for achieving net zero. This programme helps companies reach sustainable goals linked to lab activities while reducing costs and conserving resources.

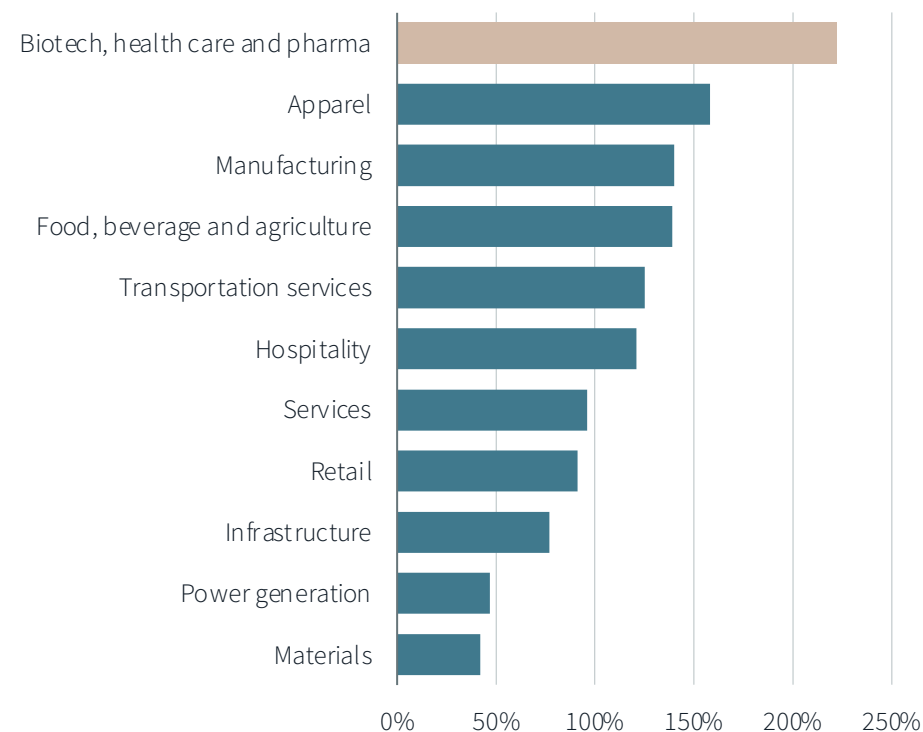
With companies increasingly signing up to SBTIs, their real estate footprint is essential in helping meet these goals. Lab assets are energy-intensive buildings that can consume up to ten times the energy and four times the water of a typical office building, meaning decarbonising these spaces can greatly reduce the operating costs and resource use of these assets.

Whether it is to reach commitments, to attract talent or to reduce energy costs, the increased focus on sustainability will be a strong driver for investments in R&D space. New supply reaching completion across Europe will be in greatest demand as under-performing, ageing assets will struggle to attract forward-looking occupiers. Multi-occupancy buildings will also grow in attractiveness as they can offer cost-effective solutions by sharing the solutions related to clean energy, waste management and making supply chains more efficient.

Examples of companies leveraging real estate to achieve their sustainability commitments include:

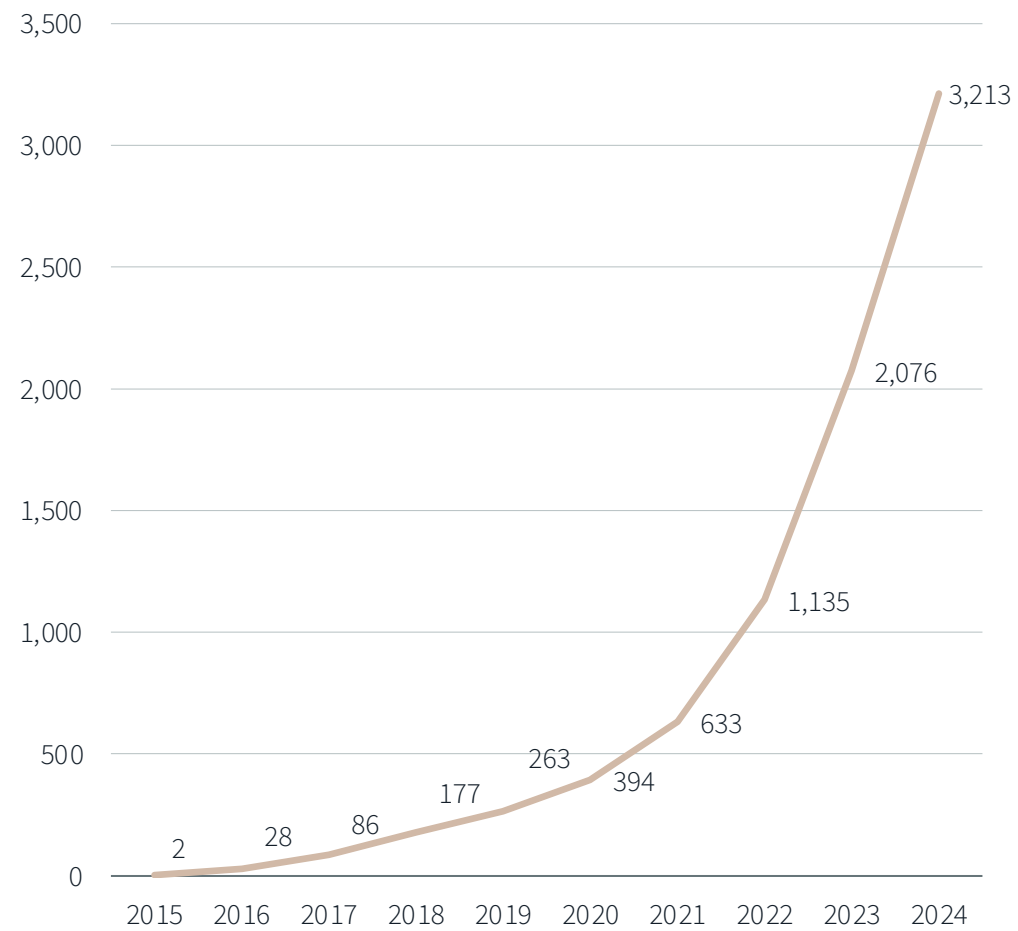
- London based Advanz Pharma looking for alternative building options to reduce emissions by at least 20% at each lease expiry,
- Medequip requiring all new sites to have an Energy Performance Certificate (EPC) A or B rating,
- Parexel International aiming to increase occupancy in green properties to 50% of total portfolio by the end of 2025 from the 23% baseline set in 2019.

Increase in companies setting science-based targets by sector (2022-2023)



Source : SBTI Monitoring Report 2023

My Green Lab Certification program engagement growth



Source : MyGreenLab

7 Renewed standards are driving lab supply as markets undergo changing characteristics

Private-owned life sciences real estate labs across continental Europe are still nascent. Lab real estate clusters have mainly formed around major public-sector anchors such as universities, hospitals and research institutes, with public sector bodies providing the necessary real estate to meet the expanding requirements of the local ecosystems. Additionally, within Europe's major life sciences clusters, large private players have historically delivered real estate as owner-occupiers. For smaller scaling companies, owning their real estate is often incompatible with early-stage business cycles, and leasing opportunities are very scarce or not tailored to rapidly changing needs. Supply is therefore a distinct challenge. The lack of commercial supply is especially noticeable in Paris, London and Berlin when considering the scale of these capital cities.

However, private investor-led stock is rapidly being delivered in response to the demand and supply imbalance of suitable space. Across the six analysed markets (Oxford, Cambridge, London, Berlin-Potsdam, Leiden, and Paris), the pipeline under construction alone represents 27% of the existing privately-owned stock. In addition, if all schemes currently in planning stage are delivered, current stock levels could potentially double within the next 5-6 years.

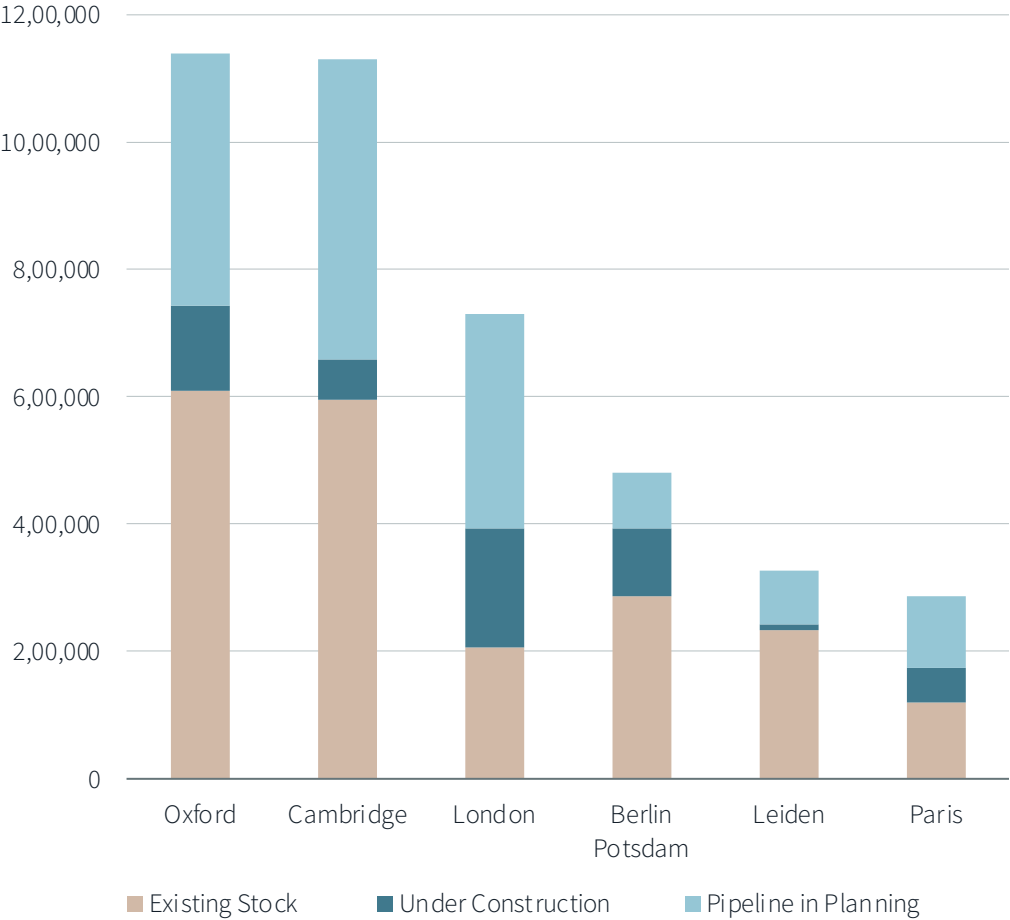
The real estate market for life sciences is shifting and driving increased demand for newly constructed, purpose-built facilities. This trend is influenced by several factors:

- Public-owned spaces that work for small startups often cannot accommodate the expanded spatial and research needs that come with rapid growth and capital influx
- Partial retrofitting of buildings has offered cost-effective leasing options to life sciences companies in buildings not originally designed for lab use. Consequently, they often require substantial renovations to meet the standards of functional modern lab spaces
- Growing cost awareness is prompting large corporations to reevaluate their owned real estate portfolios. This reassessment is likely to drive a transition towards leasing more flexible and energy-efficient spaces for research activities
- Talent-focused strategies are fuelling demand for locations in prime urban areas that offer abundant amenities and appeal to skilled professionals

A more stratified market, where top-tier assets in prime locations absorb demand first before secondary spaces is to be expected in the years to come.



Lab stock and pipeline*
In sqm



Source : JLL Research. *To be able to compare the UK clusters to those of continental Europe, figures show the aggregated GIA of buildings containing commercial lab space.



02

European cluster ranking

Mapping Europe’s top-tier clusters

This year we have broadened our benchmarking to highlight different sub-sectors across the life sciences industry. As such we have established three separate rankings to benchmark locations with criteria relative to 1 - biopharma R&D, 2 - digital health and tech R&D and 3 - pharmaceutical manufacturing. Below is a list of clusters that ranked in the top tier for at least one of the three subsector rankings.

While the UK clusters, alongside Paris and Berlin, are dominant in the R&D subsectors of life sciences (biopharma and digital health), they do not rank as highly for manufacturing. Dublin, with its renowned big pharma presence, tops the life sciences manufacturing ranking, while other top tier locations in the subsector are more distributed across continental Europe. Southern European clusters - Barcelona, Milan and Madrid - have strong manufacturing credentials while their R&D capacities are also growing. Three clusters, Stockholm-Uppsala, the Medicon Valley and Munich, are in the top tier for all three subsector rankings, testimony to their strong and balanced life sciences landscapes, and an encouraging foundation for future growth.

Tier 1 clusters Biopharma R&D	
1	London
2	Paris
3	Cambridge
4	Oxford
5	Medicon Valley
6	Berlin-Potsdam
7	Amsterdam
8	Munich
9	Stockholm-Uppsala
10	Barcelona
11	Manchester

Tier 1 clusters Digital Health/Tech R&D	
1	London
2	Paris
3	Berlin-Potsdam
4	Stockholm-Uppsala
5	Munich
6	Dublin
7	Cambridge
8	Zurich-Zug
9	Oxford
10	Amsterdam
11	Medicon Valley
12	Manchester

Tier 1 clusters Life Sciences Manufacturing	
1	Dublin
2	Medicon Valley
3	Barcelona
4	Basel
5	Milan
6	Madrid
7	Lyon
8	Stockholm-Uppsala
9	Rhein-Necker
10	Munich
11	Ruhr Valley



2.1

Cluster ranking biopharma R&D

Biopharma R&D

The Biopharma R&D ranking criteria is the primary benchmark to rank a given cluster’s strength in the life sciences sector. From a real estate perspective, this ranking highlights the most relevant locations to develop lab assets.

We have evolved the analysis to align to the Pharma and Biotech R&D subsector strengths and requirements.

Our five groups of indicators are :

- Academic credentials in life sciences
- VC targeting biopharma and drug discovery companies
- Pharma and Biotech corporate landscape
- Pharma and Biotech employment
- Lab real estate



Source : JLL Research. *The numbers are location codes



VC intensity reveals biopharma market specialists

While some of the indicators used to rank the clusters are relative (ie: expressed in percentage), most of them are absolute figures, to capture the size of a given market, and therefore the depth of real estate opportunity it can provide.

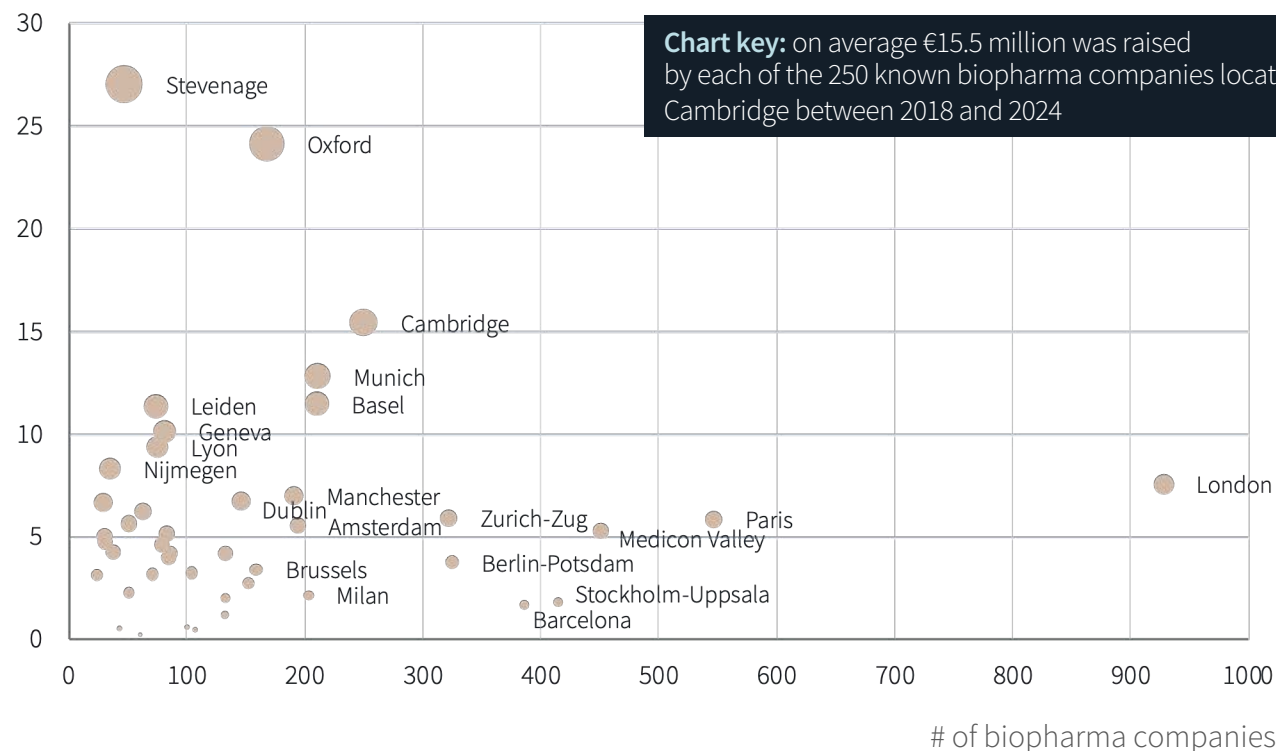
This chart highlights the intensity of VC raised by biopharma companies by comparing it to the overall number of biopharma companies in each cluster.

While London's biopharma companies have raised the most VC between 2018 and 2024 with just over €7 billion, Cambridge (€3.9 billion), Oxford (€4.1 billion), and Stevenage (€1.3 billion), relative to their smaller company counts, have been more successful at raising VC. The intensity of the UK's Golden Triangle is evident, with its markets dominating in both absolute and relative terms when considering VC allocated to biopharma companies.

Other specialised clusters such as Leiden, Basel, Munich, Geneva, Nijmegen, and Lyon stand out when analysing this indicator.

Biopharma VC intensity (2018-24)

Total VC raised by biopharma companies/# biopharma companies



Source : JLL Research on PitchBook

Basel, Switzerland - Biopharma R&D city focus

Strategically located at the border between Switzerland, Germany and France, Basel has progressively become one of Europe's most established locations for biotech and pharma. Akin to Cambridge, Oxford or Uppsala, Basel is a small city with a strong specialism in the life sciences sector.

The Basel area boasts world-class biomedical research institutions. These include the University of Basel, the Friedrich Miescher Institute and the Botnar Institute of Immune Engineering. These institutions are key to the region's strong talent pool and play a crucial role in shaping the area's robust life sciences ecosystem.

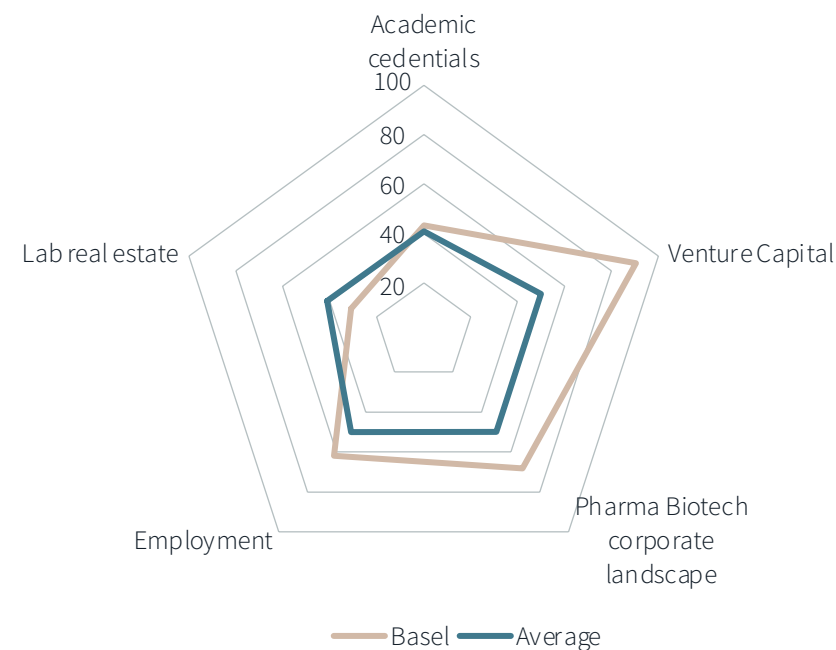
The Basel Area benefits from a notable big pharmaceutical presence. Global giants Roche and Novartis have their worldwide headquarters in Basel. The region has also drawn numerous international pharmaceutical companies: Bayer, Boehringer Ingelheim, Johnson & Johnson, and Moderna, all have established operations in the area.

Over the last couple of years, Switzerland has registered the second highest VC levels in Europe behind the UK. This is particularly impressive given its relative population size compared to other countries - 13% of the UK and France, and 10% of Germany. Basel is a major hotspot for attracting VC in the life sciences sector. Locally-based companies attracted €681 million in 2024 and €437 million in 2023.

Dedicated lab commercial real estate supply is mainly located within the Stücki Park and in the Switzerland Innovation Park Basel Area. Stücki Park is the main commercial hub, where Lonza has major R&D operations and where SuperLabSuisse operates a six-storey building.

The size of the Basel market is both its strength and weakness; providing a dense, dynamic and very specialised life sciences environment but limiting its long-term growth capacity. The quality and speed of transport connections between Basel and Zurich-Zug is an opportunity for the tandem to form a wider "super cluster" offering a range of residential settings for both scientific and technical talents needed in the industry.

Key performance indicators



Source : JLL Research

2.2

Cluster ranking digital health R&D

Digital health R&D

The Digital Health R&D ranking is tailored to inform occupiers and investors of the best locations to undertake digital health and tech related research projects. Although the strength of the previous Biopharma ranking is also relevant to the Digital Health R&D attractiveness, companies within this sector will mainly be seeking office space and possibly some dry-lab space to undertake their scientific research.

Our five groups of indicators are :

- Academic credentials in computer sciences
- VC targeting AI and Digital Health companies
- Digital Health corporate landscape
- Digital Health employment
- Tech R&D business expenditure

● Tier 1 ● Tier 2 ● Tier 3

UK

- London
- Cambridge
- Oxford
- Manchester
- Edinburgh
- Glasgow
- Bristol-Bath
- Liverpool
- Stevenage
- Birmingham
- Leeds
- Newcastle-Durham
- Nottingham

Netherlands

- Amsterdam
- The Hague-Delft
- Eindhoven
- Utrecht
- Nijmegen
- Leiden
- Wageningen

Germany

- Berlin-Potsdam
- Munich
- Rhein-Necker
- Hamburg
- Ruhr Valley

France

- Paris
- Lyon
- Montpellier
- Lille

Belgium

- Leuven
- Brussels
- Louvain-la-Neuve
- Gent

Switzerland

- Zurich-Zug
- Basel
- Geneva

Spain

- Barcelona
- Madrid

Ireland

- Dublin

Italy

- Milan

Poland

- Warsaw

Sweden

- Stockholm-Uppsala

Denmark-Sweden

- Medicon Valley



VC intensity reveals digital health market specialists

While some of the indicators used to rank the clusters are relative (ie: expressed in percentage), most of them are absolute figures, to capture the size of a given market, and consequently the depth of real estate opportunity it can provide.

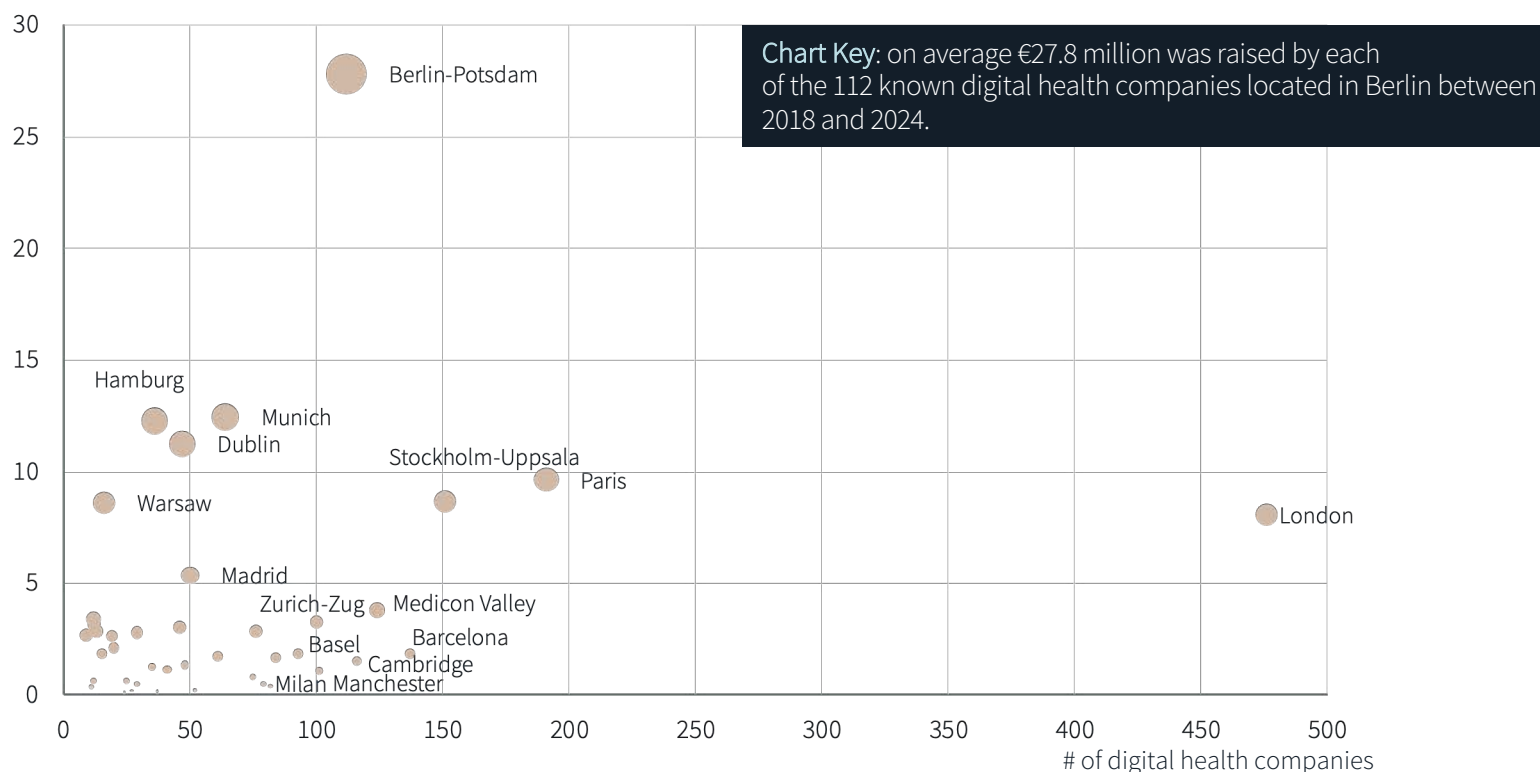
This chart highlights the intensity of VC raised by digital health companies, relative to the overall number of digital health companies in each cluster. It is then possible to identify the VC performance of a given market relative to its corporate base size.

While London's digital health companies have raised the most VC between 2018 and 2024 (€3.8bn), Berlin, relative to its smaller corporate pool, has been more successful at raising venture capital (€3.1bn).

Hamburg, Munich, Dublin, Warsaw, Stockholm, and Paris also stand out from a VC intensity perspective within their digital health sectors.

Digital health venture capital intensity (2018-24)

Total VC raised by digital health companies/# digital companies



Source : JLL Research

Paris, France - Digital health R&D city focus

Paris ranks 2nd in our 2025 Tech & Digital health ranking. The French capital is renowned for its tech scene, a priority sector of growth for the Government.

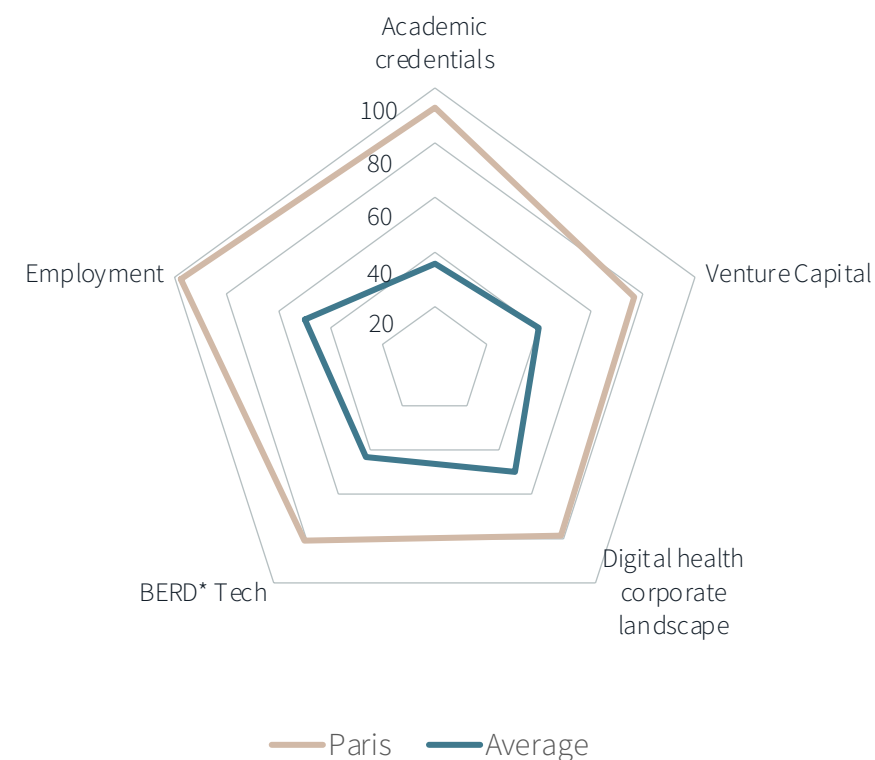
The wider Paris area excels in computer sciences with four universities ranked in the top 100 Times Higher Education “Computer Sciences” global ranking. Several of these renowned universities rank high for both “Computer Sciences” and “life sciences”, fostering talent and research at the interface of these two converging sectors. Paris Sciences et Lettres ranks 38th for “Computer Sciences” and 78th for “life sciences”, l’Université Paris-Saclay ranks 54th and 59th and Sorbonne Université ranks 77th and 62nd.

Paris ranks 2nd only to London for both volume of VC targeting AI companies in the life sciences sector (€1.1bn), and for the VC raised by companies from the Digital Health sector between 2018 and 2024 (€1.8bn).

The main commercial life sciences cluster development in the region is the Paris Saclay Cancer Cluster area adjacent to the Institut Gustave Roussy in Villejuif that will offer up to 100,000 sq m of R&D-lab space. However, this cluster is widely dedicated to oncology and primarily targets companies from the bio-pharma sector.

On the digital health front, an established cluster is that of the Paris Santé Campus, officially launched in December 2021 as part of France's strategy to become a leader in the segment. The campus brings together a consortium of five public entities - Inserm, PSL University, Inria, Health Data Hub, and the Digital Health Agency, in addition to several private players. The Campus is currently located in the 15th arrondissement, with plans to relocate it to the historical Val-de-Grâce military hospital, located in the 5th arrondissement. This major project will place life sciences at the heart of the capital with many universities in its vicinity. The success of this project will be key to France fulfilling its ambitions in the digital health sector and increasing its appeal for foreign investments in the sector that today still tend to favour London.

Key performance indicators (score/100)



Source : JLL Research. *BERD: Business Expenditure on Research & Development.

2.3

Cluster ranking pharmaceutical manufacturing

Pharmaceutical manufacturing

The pharmaceutical manufacturing ranking highlights Europe's the depth and intensity of the life sciences sector from a manufacturing perspective with a strong focus on available workforce. It has a primary focus on the industrial and warehouse asset classes.

Our five groups of indicators are :

- Good manufacturing practice sites
- Manufacturing employment intensity and dynamics
- Pharmaceutical manufacturing employment
- Large pharmaceutical manufacturing landscape
- Pharmaceutical products trade (national)

● Tier 1 ● Tier 2 ● Tier 3

UK

- Cambridge
- London
- Oxford
- Stevenage
- Manchester
- Liverpool
- Edinburgh
- Newcastle-Durham
- Glasgow
- Leeds
- Bristol-Bath
- Nottingham
- Birmingham

Netherlands

- Amsterdam
- Leiden
- Nijmegen
- Utrecht
- Eindhoven
- The Hague-Delft
- Wageningen

Germany

- Rhein-Neckar
- Munich
- Ruhr Valley
- Berlin-Potsdam
- Hamburg

France

- Lyon
- Paris
- Lille
- Montpellier

Belgium

- Louvain-la-Neuve
- Brussels
- Gent
- Leuven

Switzerland

- Basel
- Zurich-Zug
- Geneva

Spain

- Barcelona
- Madrid

Ireland

- Dublin

Italy

- Milan

Poland

- Warsaw

Sweden

- Stockholm-Uppsala

Denmark-Sweden

- Medicon Valley



GMP density reveals smaller markets' performances

In this chart, we examine the density of Good Manufacturing Practice (GMP) sites for each market by comparing the number of GMP sites to the population within each cluster's Functional Urban Area (FUA).

Basel stands out with 62 registered GMP sites, representing a ratio of 109 sites per million inhabitants within its wider functional urban area. Novartis, Roche, and SOBI are among the major pharmaceutical companies with registered GMP sites in the area.

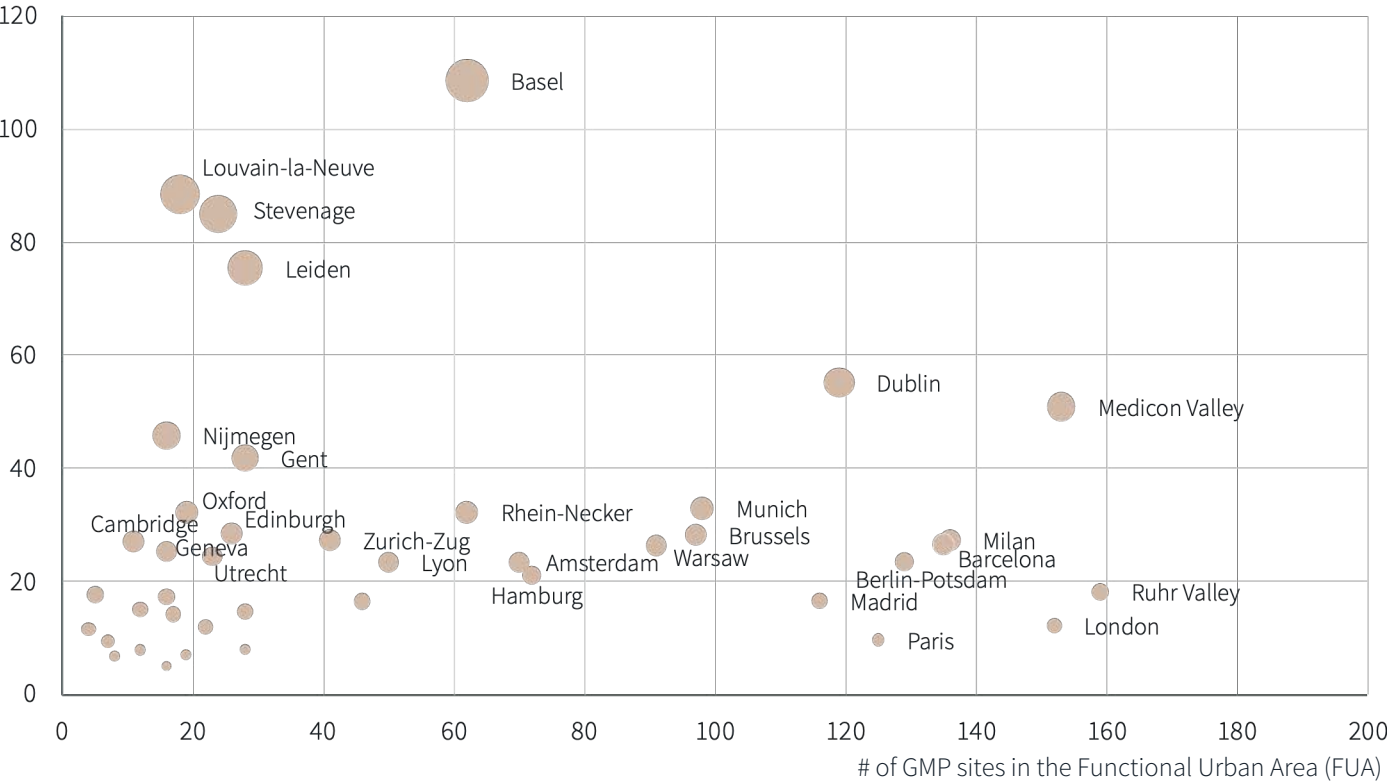
In Wavre, near Louvain-la-Neuve, Belgium, GSK operates a large vaccine manufacturing, where vaccine antigens and finished vaccines are produced. R&D activities related to vaccine development and production process improvement are also conducted there.

While GSK has registered GMP sites in Stevenage, most of its activities are related to research and development. Autolus has a manufacturing facility in Stevenage dedicated to the production of its CAR-T cell therapies.

Finally, in Leiden, Astellas Pharma, Janssen, Eurofins, and Bristol Myers Squibb have registered GMP sites in the Leiden Bio Science Park. Bristol Myers Squibb selected the Leiden Bio Science Park as the European location for a new 19,000 sqm CAR-T cell therapy facility, to be delivered in 2026.

GMP density

Number of GMP sites per million inhabitants



Source : JLL Research on EudraGMP

Medicon Valley, Denmark & Sweden - Manufacturing city focus

The Medicon Valley is a recognised European cluster for life sciences spanning across both Denmark, in the wider Copenhagen area, and Sweden, mainly in the cities of Lund and Malmö. The cluster ranks 2nd of our 2025 EMEA pharmaceutical manufacturing ranking. Its leading position is due to a strong concentration of GMP sites and a large manufacturing employment base.

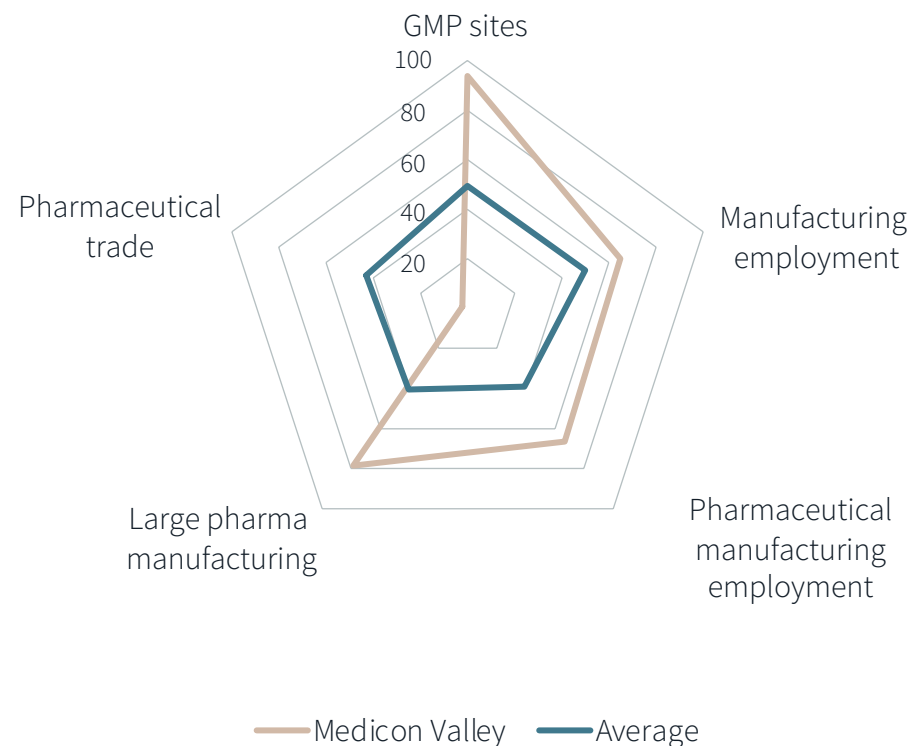
Denmark and Sweden both show positive trade balances for Pharmaceutical products and are attracting growing interest from large pharmaceutical companies to establish their manufacturing operations. In 2023, Denmark exported over \$21bn of Pharmaceutical products (18% of its total exports value) while Sweden exported \$15.6bn (8.3% of its total exports value), respectively ranking 13th and 16th globally. However, the average export value of the 2 countries in 2023 (\$18bn), remains much lower than some countries such as Germany (\$115bn), Ireland (\$92), or Switzerland (\$81bn).

According to LinkedIn data, 61,000 people work within the “Medical Equipment Manufacturing, Wholesale Drugs and Sundries, Personal Care Product Manufacturing, and Pharmaceutical Manufacturing” sectors in the Copenhagen and Malmö Metropolitan areas. Novo Nordisk is the main employer in this field, despite its main manufacturing site being in Kalundborg. The global pharma company has manufacturing and R&D activities in Hillerød and surrounding its Bagsvaerd global HQ. Other sizeable biotech and pharmaceutical companies have established manufacturing sites in the area, including Leo Pharma, Ferring Pharmaceuticals and Lundbeck.

According to the Medicon Valley Alliance, the cluster has the second highest number of manufacturing facilities in Europe (54) and the highest number of Contract Development Manufacturing Organisation (CDMO) facilities (22). CDMOs play a crucial role in providing flexible third-party support to pharmaceutical and biotech companies at all stages of development. Malmö in particular is a ‘hot spot’ for local investment with facilities owned by Apotek Produktion and Laboratorier, Bioglan and Sever Pharma Solutions. International CDMOs FujiFilm Diosynth Biotechnologies and AGC Biologics are expanding their activities in the area.

The Medicon Valley is in a strong position from both a biopharma R&D and a manufacturing standpoint. However, the competition to attract life sciences manufacturing companies is growing and locations such as Barcelona, Milan and Madrid are increasingly appealing, due to their growing manufacturing and research ecosystems offering cheaper land and labour markets.

Key performance indicators



Source : JLL Research

03

Middle East and Africa

Exploring the Middle East and Africa's life sciences landscapes

For the first time since we established our EMEA life sciences cluster report, we have included a high-level overview of the Middle East and Africa markets, and analysed the strengths of the two regions' major life sciences city-clusters.

There are gaps in some datapoints in the Middle East and African regions, and therefore they have not been compared against European markets.

To be consistent with the approach applied to benchmark the European clusters, we have also analysed the clusters in the same three subsectors:

1. Biopharma R&D
2. Digital health and tech R&D
3. Pharmaceutical manufacturing.

Local JLL experts have applied a score from 1 to 10 to each cluster across the three subsectors.



Gulf Cooperation Council (GCC) life sciences overview

\$36bn Middle East
Projected Pharma Business by 2028
CAGR 23-28 : 7.7%

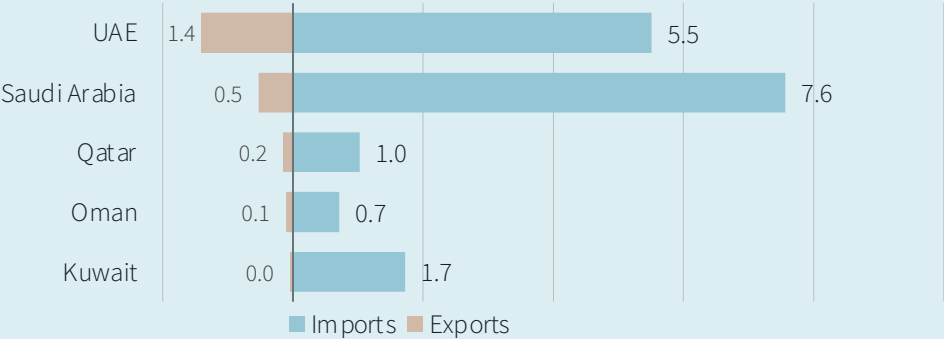
Source : IQVIA

Life sciences universities global ranking:

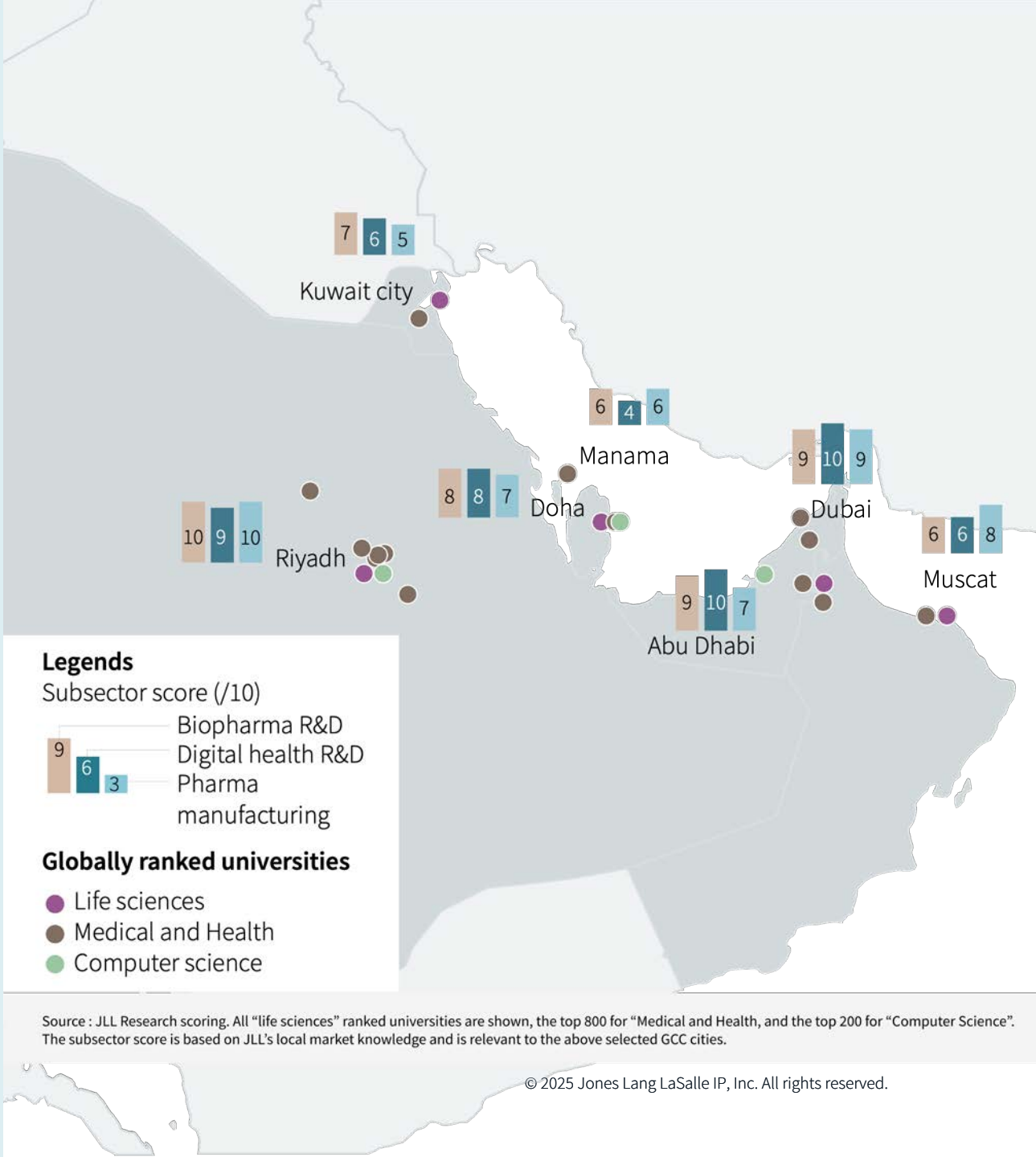
- King Saud University - Riyadh (176–200)
- Qatar University (201–250)
- United Arab Emirates University (201–250)
- Sultan Qaboos University (501–600)
- Kuwait University (601–800)

Source : Times Higher Education

2023 Pharmaceutical products trade (\$bn)



Source : OEC



Source : JLL Research scoring. All "life sciences" ranked universities are shown, the top 800 for "Medical and Health, and the top 200 for "Computer Science". The subsector score is based on JLL's local market knowledge and is relevant to the above selected GCC cities.

Gulf Cooperation Council (GCC) subsector strengths

Biopharma R&D

The Biopharma and drug discovery sector in the Middle East is undergoing a significant transformation, moving towards greater local innovation and production. Governments recognise the strategic importance of a robust domestic life sciences industry. Whether it be for national health security, cost reduction, or job creation, governments are heavily investing in R&D and manufacturing infrastructure, while seeking favourable regulations.

Driving this growth are the increasing prevalence of chronic diseases and a focus on personalized medicine and genomics research, opening avenues for targeted therapies. Growth areas not only include local generic drug manufacturing and biosimilar development, but also highly innovative research areas such as cell and gene therapy. The UAE, with initiatives in Dubai Science Park, and Qatar Science and Technology Park are emerging as regional hubs for biopharma research and development, attracting international collaborations and fostering a vibrant ecosystem for drug discovery. Saudi Arabia, with its increasing investments in pharmaceutical research and manufacturing through entities like the Saudi Authority for Intellectual Property (SAIP) and strategic partnerships, is also becoming a significant player in the regional drug discovery landscape.

Digital health

The Digital Health and Lifesciences sector is witnessing a surge in adoption, propelled by governmental initiatives prioritising digital transformation in healthcare for enhanced accessibility, efficiency, and patient outcomes. Programs centred on Electronic Health Records (EHRs), telemedicine platforms, mobile health (mHealth) applications, AI-driven diagnostics are gaining traction. Saudi Arabia's Vision 2030, for example, emphasises a digital healthcare ecosystem, while the UAE has launched initiatives like the National Unified Medical Record program.

Key growth areas within digital health and life sciences encompass telehealth, remote patient monitoring via wearables, and AI-powered diagnostics and drug discovery. The emergence of health-tech startups and a growing emphasis on preventive healthcare are also contributing to sector growth. Regionally, the UAE, with hubs like Dubai Healthcare City and Abu Dhabi's Healthpoint, and Saudi Arabia, particularly around Riyadh and the developing NEOM project, are leading in digital health adoption and investment. These hubs foster innovation and attract talent and investment in digital health solutions.

Pharmaceutical manufacturing

The Pharmaceutical Manufacturing sector in the Middle East is diversifying, with a growing focus on local production of pharmaceuticals and medical devices. Governmental industrialisation strategies aim to reduce import reliance, create jobs, and diversify economies through investments in industrial parks and incentives for manufacturers.

Growth in this sector is driven by affordable energy, strategic geographic locations, and increasing local content requirements. The adoption of advanced manufacturing technologies is enhancing efficiency. In healthcare, the manufacturing of pharmaceuticals, medical devices, and diagnostics is expanding significantly. The UAE, with established manufacturing zones in Jebel Ali Free Zone and Dubai Industrial City, and Saudi Arabia, with its development of industrial clusters like King Abdullah Economic City (KAEC) and Sudair Industrial City, are key manufacturing hubs attracting both domestic and international pharmaceutical companies. These hubs offer advanced infrastructure and logistical advantages for pharmaceutical production and distribution.

Africa life sciences overview

\$28bn Africa
Projected Pharma Business by 2028
CAGR 23-28 : 5.7%

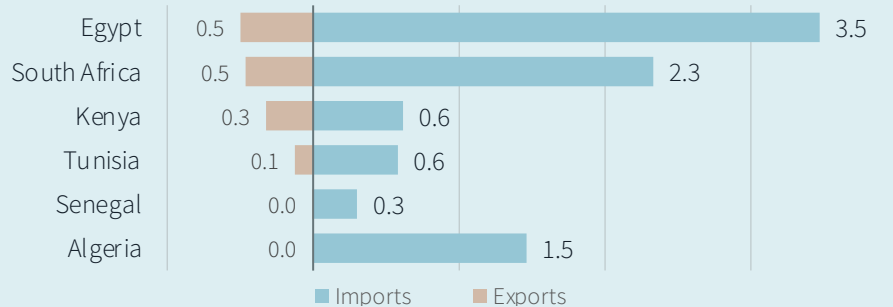
Source : IQVIA

Life Sciences ranked universities (global rank) :

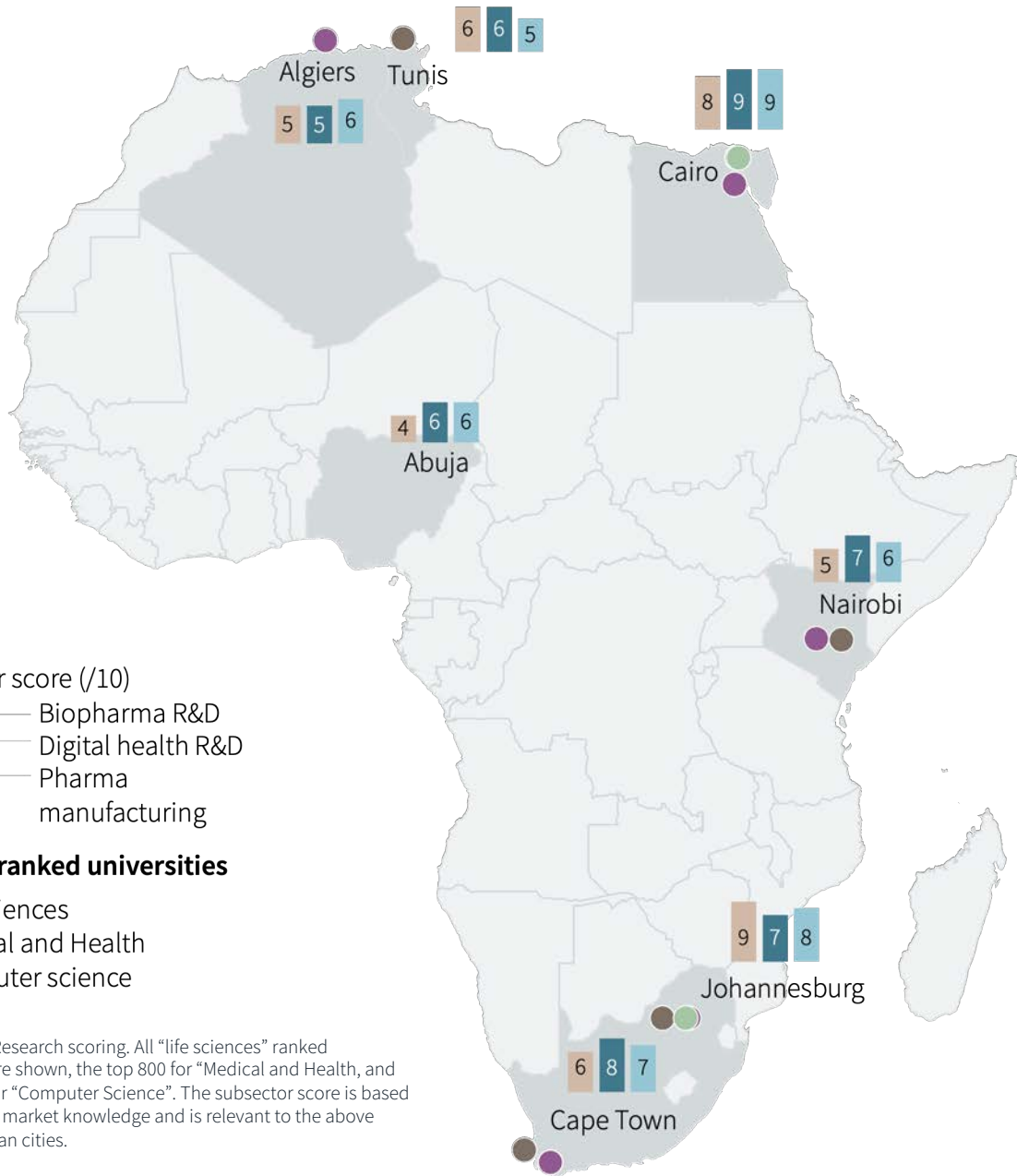
- University of Cape Town (151–175)
- Cairo University (301–400)
- University of Johannesburg (301–400)
- University of Tunis El Manar (601–800)
- University of Nairobi (801–1000)
- University of Sciences and Technology Houari Boumediene - Algiers (1001+)

Source : Times Higher Education

2023 Pharmaceutical products trade (\$bn)



Source : OEC



Source : JLL Research scoring. All “life sciences” ranked universities are shown, the top 800 for “Medical and Health, and the top 500 for “Computer Science”. The subsector score is based on JLL’s local market knowledge and is relevant to the above selected African cities.

Africa subsector strengths

Biopharma R&D

The African continent faces many challenges to build an established biopharma R&D market. It has limited research infrastructure, relatively few skilled researchers, a scarcity of sustainable financing and most of all an absence of a well-defined continental health research governance framework. As such, the Africa Centres for Disease Control and Prevention (CDC) has long been advocating for the establishment of well coordinated R&D governance and coordination systems.

That said, encouraging regulatory foundations are being laid. The establishment of the North Africa Medicines Regulatory Harmonization Initiative in February 2025 paves the way for a fully harmonized continental regulatory system. National bodies such as South Africa's SAHPRA¹ or Nigeria's NAFDAC² also contribute to a better research ecosystem development.

South Africa stands out as major continental biopharma research clusters with activity noticeably clustering around Cape Town and Johannesburg universities and institutions such as the Council for Scientific and Industrial Research or the Agricultural Research Council. While in Cairo, the BUE-Tus Science and Innovation Park strives to connect academic and corporate research. Finally, in Abuja, the Abuja Technology Village focuses, among other areas, on biotechnology research.

Digital health

Digital health technologies are improving the efficiency of the healthcare system and empowering individuals to take control of their own health. Digital health services are thriving in Sub-Saharan Africa as the traditional health-care systems are generally underdeveloped, understaffed, or non-existent. Out of the 54 African countries, 41 have an already existing national digital health strategies and implementation plan, and application of digital health technologies takes different forms and dimensions. Digital technology also played a critical role in mitigating the effects of COVID-19 pandemic on the fragile health system through several ways including contact tracing, lockdown enforcement, public enlightenment, etc. The advancements of technology has been rolled out in administrative management also like supply chain management, pharmacy and blood delivery, or care management.

Pharmaceutical manufacturing

Today, Africa represents only 3% of global drug production and imports more than 90% of its consumed pharmaceutical goods.

Currently, most local manufacturing in Africa involves the production of fill-and-finish drugs and generics. As many countries, Africa is dependent on active pharmaceutical ingredients (APIs) and excipients imports, coming from India and China.

In the longer term, Africa must boost its manufacturing capacity pharmaceuticals. Intellectual Property waivers are a crucial first step but must come alongside the sharing of expertise and critical technologies. WHO is helping African Member States to lay the groundwork to build up vaccine manufacturing capacity, around 40 African countries joined a recent WHO training to build manufacturing capacities and WHO is working with the African Union to support the African Pharmaceutical Manufacturing Plan for Africa, supporting feasibility studies and potential technology transfers on request, sharing expertise and helping forge crucial partnerships

There is also increasing interest in investment from foreign countries (such as China and India) as well as international organizations including the International Finance Corporation, the Africa Development Bank the European Investment Bank and many others targeting infrastructure growth to support local production.

¹ SAHPRA : South African Health Products Regulatory Authority

² NAFDAC : National Agency for Food and Drug Administration and Control



04

Outlook

Outlook

The third edition of our EMEA Life Sciences Industry Perspective and Cluster Report sets out the key themes currently impacting the market and explores local markets performance.

Locally, the rise of new lab facilities is transforming urban landscapes and creating crucial infrastructure for cutting-edge research. Beyond lab space, the industry's operational needs include manufacturing, distribution centres, and office spaces. As such, the life sciences sector influences many levels, affecting geopolitics, trade, urban development, and various real estate facilities.

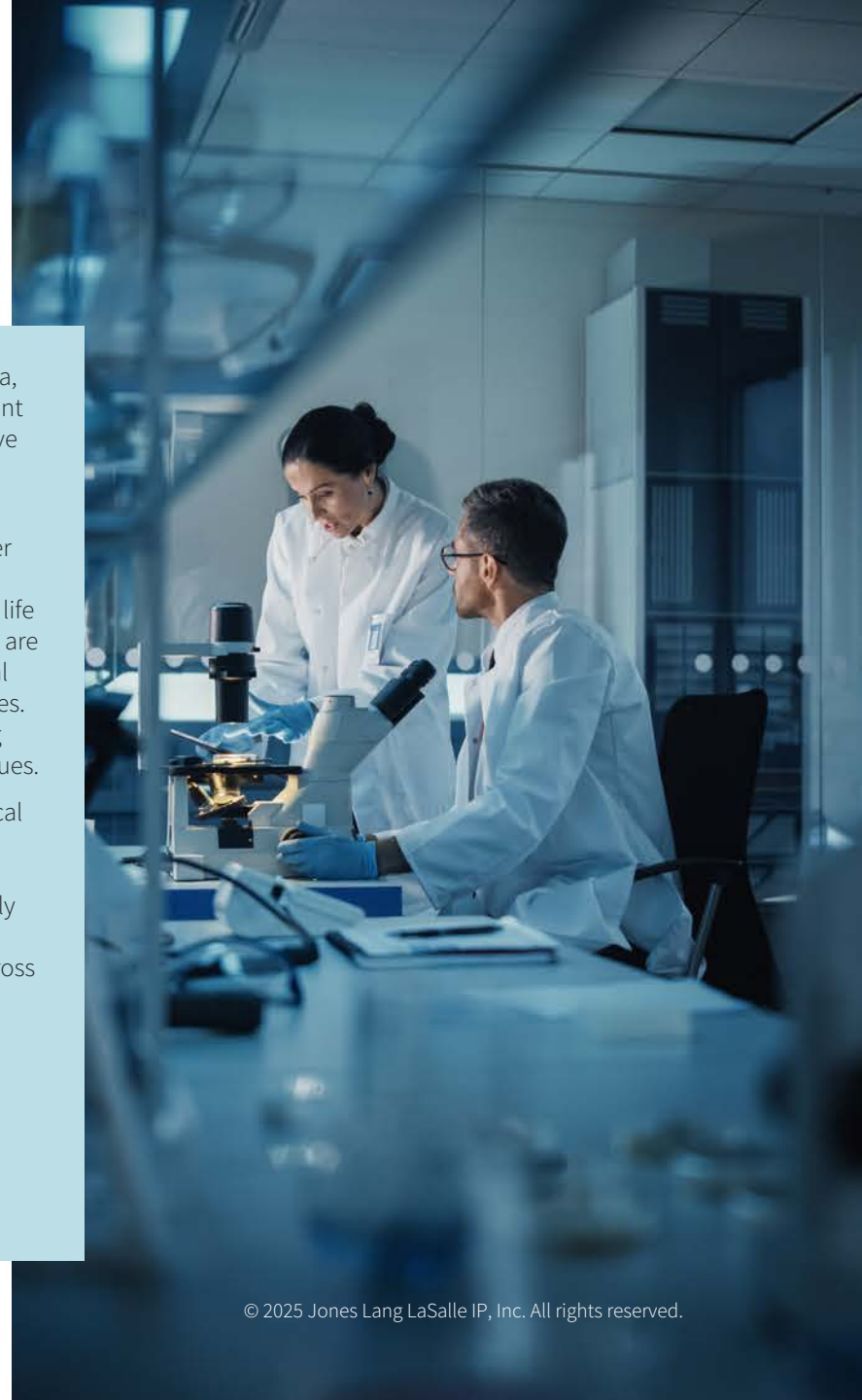
The real estate sector is seeing significant shifts driven by AI and sustainability. Across Europe's life sciences clusters, there is a growing demand for flexible, tech-enabled and energy-efficient buildings. Tailored real estate will help scaling companies to advance their scientific projects more effectively. Established and emerging ecosystems provide larger corporations with opportunities to tap into vibrant Intellectual Property environments while simultaneously contributing to their growth.

VC investment in drug discovery and health innovation is increasing throughout Europe. The most promising real estate investment opportunities are concentrated in leading biopharma and digital health R&D clusters. The Golden Triangle, followed by Paris and Berlin, stand out as particularly well-positioned for R&D-related real estate growth. Switzerland's well-established research and manufacturing base is also drawing increased investment.

Similarly, major clusters like Medicon Valley, Stockholm-Uppsala, and Barcelona, combine strong R&D capabilities with a significant pharmaceutical manufacturing presence, making them attractive investment destinations.

The life sciences sector is expected to experience substantial long-term growth in the Middle East and Africa, regions that offer significant untapped opportunities. In the Middle East, the healthcare sector is a major focus, driving and overlapping with life sciences. Synergies with the chemical and petroleum industries are also present. Africa's large population is seeing a shift in medical research from infectious diseases to non-communicable diseases. Furthermore, agri-tech research is crucial for enhancing farming productivity and addressing current and future food scarcity issues.

The uncertainty around tariffs and ongoing major pharmaceutical investment announcements in the US have highlighted the life sciences sector's critical role in the global economy. Location strategies, spanning research and manufacturing, are continually adapting. Providing tailored real estate solutions within vibrant ecosystems will be key to maintaining health independence across EMEA's diverse regions.



Research authors

George Beaton

Life Sciences Research Lead
EMEA
george.beaton@jll.com

Hannah Dwyer

Head of Work Dynamics Research & Strategy
EMEA
hannah.dwyer@jll.com

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To find out more about JLL services, contact:

Dr Alexander Nuyken

Head of Life Sciences Markets
EMEA
alexander.nuyken@jll.com

Alistair Meadows

Head of Life Sciences Capital Markets
EMEA
alistair.meadows@jll.com

Michelle Pattison

Head of Life Sciences Work Dynamics
EMEA
michelle.pattison@jll.com

Chris Valentine

Head of Life Sciences & Innovation
UK
chris.valentine@jll.com

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