# Spectrum

## Marvellous medicine:
## The investment case for biologics and life sciences

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Federated Hermes Limited

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# Introduction

Anti-obesity wonderdrugs. An end to diabetes. A shortcut to cardiovascular health. Investors with an eye on the headlines will have been hard pressed to avoid news from the life sciences sector in recent years. Ever since Novo Nordisk made its anti-obesity drug Wegovy widely available in 2021, biotech has been second only to the world of Artificial intelligence (AI) for its ability to be part of the Zeitgeist.

And little wonder. Helped by its new anti-obesity treatments, Novo Nordisk has seen its share price quintuple since 2020 and it is now Europe's largest company by market cap. Eli Lilly, the maker of Wegovy competitor Zepbound, has likewise seen its share price rise more than sixfold over the same period.[1]

So much for the blockbusters, but look beyond the headlines and it becomes clear that the investment case for life sciences and biologics is more than skin-deep.

In this issue of our regular *Spectrum* report, our investment teams make the case for a nuanced approach to investing in this arena of innovation. Although the brand-named drugs and treatments may have garnered the most attention, our teams argue there is still headroom for investors who know where to look.

As ever, we bring in thought leaders from across Federated Hermes to air their differing approaches. First, our Sustainable Global Equity team examine the life science tools and services firms that are carving their own space away from the spotlight. Next, our investment team at Kaufman examine the IPO landscape in a sector fuelled by lightning-speed innovation.

In part three of our report, our private equity team explain why they take a 'picks and shovels' approach to investing in the sector with a strategy that aims to limit exposure to riskier, early-stage companies.

Finally, our real estate team at MEPC look at how an ongoing imbalance between supply and demand for lab space can provide a tailwind for real estate investors.

We hope you enjoy this report.

**Geoff Spiteri**
Director, Global Content at Federated Hermes

[1] Source: Bloomberg as of July 2024.

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# Part one:
## Why the healthcare sector can expect continued growth

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While treatments for obesity have dominated the healthcare investment narrative over the past 18 months, they are by no means the only secular growth story. We see the life sciences industry as well positioned to benefit from structural trends.

## Fast reading

- The healthcare sector is set for continued expansion on the back of ongoing population growth, higher life expectancy, improved availability, continuing innovation and increased personal and institutional spending power.
- As well as benefiting from this structural growth, life sciences businesses such as contract development and manufacturing organisations (CDMOs) and healthcare equipment providers are well positioned to exploit secular trends including the shift to biologics and the need for more intense research and development (R&D).

A range of factors have driven significant ongoing growth in healthcare spending as a percentage of GDP since the 1960s, particularly in developed countries. Most of these drivers will continue to be present in the market in the coming decades:

- **Population growth:** The world's population has more than tripled since the mid-twentieth century, reaching 8.0 billion in November 2022. United Nations estimates see it hitting 9.7 billion in 2050 and peaking at nearly 10.4 billion in the mid-2080s[2].
- **Life expectancy:** Global life expectancy at birth rose from 46.5 years in 1950 to 71.7 years in 2022; by 2050 it is expected to reach 77.3 years, partly as a result of improved healthcare.[3] A larger aging population in itself creates greater healthcare demand.
- **Availability:** The World Health Organisation's Universal Health Coverage (UHC) service coverage index increased from 45 to 68 between 2000 and 2021 (although improvements in coverage have slowed in recent years)[4].

The World Economic Forum estimates global healthcare spend increased by more than

**40%**

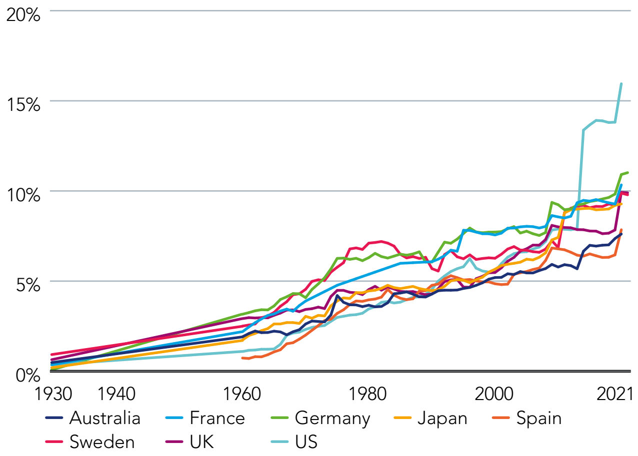
between 2018 and 2022, reaching

**US$12tn**

- **Innovation:** Significant drug discoveries and new methods of treatment for diseases such as cancer and diabetes have boosted demand. Looking ahead, the application of technology including artificial intelligence, 3D printing, gene editing, virtual reality and smart bandages is set to accelerate at an unprecedented rate[5].
- **Spending power:** Both individuals and governments have more money to spend on treatment; the World Economic Forum estimates global healthcare spend increased by more than 40% between 2018 and 2022, reaching US$12tn[6].

[2] 'Population: Our growing population'. United Nations website accessed 19 February 2024.
[3] 'Population Prospects 2022: Summary of Results'. Published by the United Nations Department of Economic and Social Affairs. Accessed 19 February 2024.
[4] 'Universal health coverage (UHC)'. Published on the World Health Organization website, 5 October 2023.
[5] '5 innovations that are revolutionizing global healthcare'. Published by the World Economic Forum, 22 February 2023.
[6] 'World Heath Day: 8 trends shaping global healthcare'. Published by the World Economic Forum, 5 April 2023.

**Figure 1:** Government health expenditure as a percentage of GDP (1930-2021)




Source: Our World in Data.

With improving access to healthcare in emerging market countries offering signifcant opportunities, we believe the sector can expect an ongoing overall annual growth rate of around 4%.

Over the past 12-18 months, investor attention has largely been captured by the excitement around GLP-1s – the wonder drugs originally developed to treat diabetes but that offer a potential solution to the spiralling global obesity epidemic. While this enthusiasm is justified, it has tended to dominate the narrative to the extent that other dynamic long-term investments within the healthcare arena have been overlooked.

We believe the life science sector and related businesses represent a strong but somewhat overlooked long-term opportunity.

**We believe life science tools and services businesses represent a strong but somewhat overlooked long-term opportunity.**

## The business case for life science tools and services

As well as the structural growth of the healthcare market globally, companies focused on life sciences services and equipment benefit from two strong secular growth themes.

### Theme 1: The shift to biologic drug production

Historically, the pharmaceutical industry focused on small-molecule pills or chemotherapy-type 'poisons' to treat illnesses. However, over time, these approaches have offered diminishing returns. Increasingly, the sector is moving towards the commercialisation of monoclonal antibodies – as well as next-generation treatments such as gene and cell therapy.

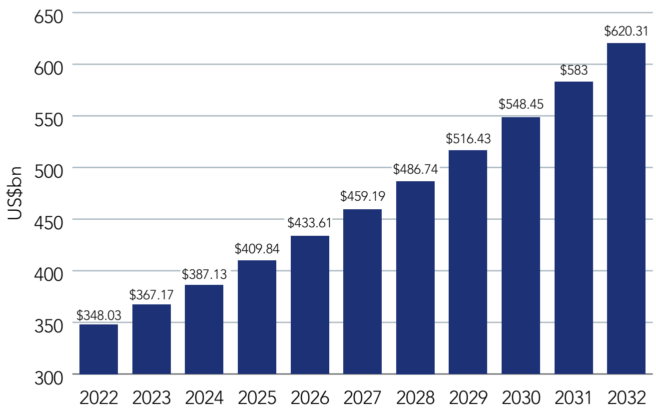
Monoclonal antibodies are a group of proteins known as immunoglobulins; they are essentially identical copies of specific antibodies that can be used in the diagnosis and treatment of diseases.

The shift towards biologic drug production has already been in play for a decade, but we have good visibility on it continuing; around 70% of pipeline starts and 40-50% of production are currently biologics, leaving a lot of remaining potential.[7]

As more complex molecules, monoclonal antibodies require different discovery and production technologies from traditional medicines; the transition to biologics is therefore driving high single-digit growth for companies exposed to this megatrend.

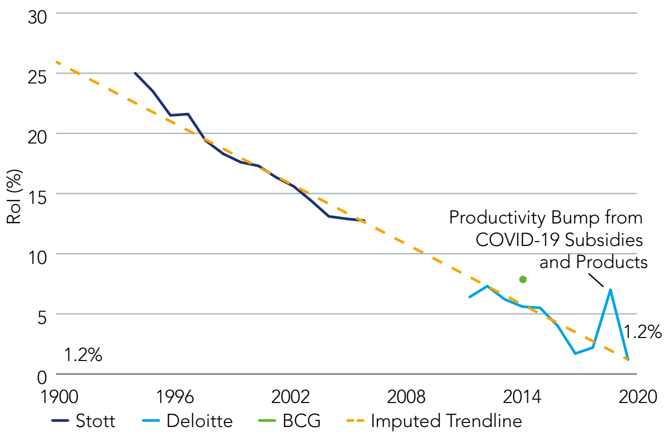
[7] https://www.nature.com/articles/s41587-022-01630-6


**Figure 2:** Biologics market forecast growth (2022 to 2032)




Source: Precedence Research
https://www.precedenceresearch.com/biologics-market, as at 2022.

**Figure 3:** Decline in returns on investment (RoI) from biopharma R&D over time, measured by % return




Source: Bioprocess International, as at November 2023.

### Theme 2: Declining productivity in drug R&D

The returns on R&D investment in the pharmaceutical industry have been steadily declining over the past 30 to 40 years. A constant flow of drug discoveries through the 1980s and 1990s slowed in the new century as the incremental market opportunity became smaller. This raised the bar to take forward new drugs. At the same time, the intensity of research required to isolate potential candidates for commercialisation has become much higher.

Overall, the necessary spend to generate the same level of output in terms of drug sales has risen significantly. This increasing spend creates a growing market for both contract, development and manufacturing organisations (CDMOs) and laboratory equipment manufacturers.

## Life sciences and sustainability

The life sciences sector is generally well-aligned with positive societal outcomes. CDMOs and equipment manufacturers help to minimise the cost of drug discovery and the delivery of new medicines, while ultimately helping with the challenges of unmet medical need.

The efforts of these life science businesses contribute directly to UN Sustainable Development Goal[8] (SDG) 3, which aims to promote healthy lives and well-being for all.

According to the UN, the Covid-19 pandemic and other crises have impeded progress towards Goal 3 in recent years, with increases in treatable illnesses including tuberculosis and malaria.[9] Companies with a diagnostic portfolio are using their tools to directly help address these key public health challenges.

[8] **Sustainable Development Goals (SDGs):** The SDGs are a set of 17 interconnected goals that were adopted by all UN member states in 2015. They are a universal call to action to end poverty, protect the planet and improve the lives and prospects of everyone, everywhere, by 2030. Learn more here: https://www.undp.org/sustainable-development-goals.

[9] 'Goal 3: Ensure healthy lives and promote well-being for all ages', Health – United Nations Sustainable Development.

## Investment implications

We see significant long-term investment potential in the best companies among two main types of life science business:

- **Contract, development and manufacturing organisations (CDMOs):** Businesses providing third-party services to pharmaceutical firms to develop and produce drugs, taking them from concept to active use in bettering the lives of patients.
- **Specialist tool and equipment manufacturers:** Makers of instruments and related consumables used for a) diagnostic testing in a hospital or other healthcare environment (as well as for DNA verification at crime scenes); b) life sciences research in discovery settings such as academia or at large biopharma companies.

While the life sciences sector has underperformed against other sectors, this has been caused by three transitory headwinds:

1. **The end of the Covid-driven boost in healthcare spending.**
2. **A funding crisis within biotech which led to spending cuts by emerging biopharma companies.**
3. **The debt crisis in China, which has dampened growth.**

Broadly negative sentiment towards the healthcare sector impacted a number of firms with strong fundamentals, including those held by our Sustainable Global Equity Strategy. However, given the structural trends in play, we have strong conviction in the long-term opportunities for these companies.

Despite short-term issues in China, healthcare and the levelling up of provision to a first-world standard continues to be a major commitment within the country's five-year plan. China is also aiming to rival the West in terms of drug discovery.

More broadly, the rise in spending, the transition to biologics and the increased focus on drug R&D should act as strong drivers for long-term secular growth in healthcare.

High-quality life science stocks will be well-positioned to reap the rewards while contributing strongly to a more sustainable future.

**High-quality life science stocks will be well-positioned to reap the rewards of rising spend, the ongoing transition to biologics and the increased intensity of drugs R&D.**

# Part two:

## Politics, pitfalls and the potential for big rewards

**Jordan Stuart**
Client Portfolio Manager, Kaufmann Growth Equity Strategies

## Key takeaways

- Biotech companies are innovating at breakneck speed, creating products and processes that never before existed.
- Currently, biotech valuations are attractive; innovation is on sale.
- Investing in biotech involves greater risk, along with potentially greater reward. We believe our team's biomedical expertise and experienced active management offers an advantage.

## The current state of the biotech industry

In early 2020, the World Health Organisation estimated that a Covid-19 vaccine would require at least 18 months of development time. Traditional vaccine development takes 10 years or more. So how did we get a safe and effective, FDA-authorised Covid-19 vaccine delivered to the public on ice by December 2020? It would not have been possible without biotechnology-led advances in vaccine development. Excitement over the speed and efficacy of the Covid-19 mRNA vaccines, the first successful commercialisation of an mRNA vaccine, (not to mention billions in government funding and low rates) sent the entire Russell 2000 Growth Biotechnology Subsector Index up more than 100% from March 2020 to January 2021. For a short period from 2020-2021, investors were willing to finance high-risk, early-stage concepts, and bankruptcies were historically low.

Recent events have challenged biotech investing and increased the value of active management, in our view. Since its peak in January 2021, the Russell 2000 Growth Biotechnology Subsector Index has fallen significantly and bankruptcies have hit a 10-year high. Poor recent returns of the aggregate industry reflect higher interest rates, but also political and drug pricing challenges to commercial success. It is now harder to forecast sales, making biotech companies difficult to value, even when they have a medicine that works. The good news is that thanks to 2020-2021's exuberance-funded viable early-stage projects, the pace of biotech innovation has accelerated – and valuations are attractive. Active managers with the experience to navigate challenges should, we believe, now be in a position to identify undervalued biotechs with significant upside potential.

## Five key biotech headwinds

**1) Costs of capital:** Higher costs of capital restrict borrowing power for biotechs. Additionally, higher rates have made it harder for biotechs to fundraise. The biggest source of capital for biotech companies is equity, not debt, and it's been hard to compete with 5%+ returns on 'cash'. Venture capital investments in biotech companies were approximately US$24bn in 2023, down from US$54bn in 2021.[11] If rates remain high, lack of funding may weigh on biotech.

**2) Drug pricing:** Projecting the commercial success of products is challenging. The US government's Inflation Reduction Act (IRA) has added complexity, by empowering the government to negotiate select drug prices directly with biotech and pharma companies. Negotiated prices don't kick in until 13 years after approval for eligible biologics, but the effects on the industry are generally seen as negative, lowering the lifetime revenue of biologics by 3-4%,[12] deterring innovation and reducing the number of drugs in development. The first negotiated prices go into effect in 2026 for the first 10 drugs selected for negotiation; 60 drugs will have been selected for negotiation by 2030. The IRA also limited annual price increases above inflation. It's too soon to tell the impacts on the industry, but the IRA could curb early-stage funding, as well as change pipeline prioritisation, impact launch-price strategy, and more.

**3) Market sentiment:** New drug development requires substantial early and on-going investment, and the path to potential profitability is years-long and complex. To compensate for upfront costs and high risks, investors seek high returns. Returns in biotech are driven by events like successful clinical trials, mergers and acquisitions (M&A), and initial public offerings (IPOs). Yet it is difficult to value biotech companies to determine if the risk is worth the potential reward. This can deter investors, especially in a high risk-free rate environment.

**4) Regulation:** Regulatory headwinds could stall innovation progress and commercialisation of new drugs. For example, gene editing will require a regulatory framework, and FDA approvals of new AI algorithms take time. However, if these innovations can improve patient outcomes, regulators should be keen to facilitate them.

**5) Insurance coverage:** Costs of new biologics are considerably higher than small molecule chemical pharmaceuticals because of their complexity, making insurance coverage key to commercialisation.

## Six tailwinds for biotechs

**1) Declining interest rates:** Biotech stocks are extremely rate-sensitive. However, the Federal Reserve is at the end of its rate-hiking cycle, and in the past, biotech stocks have rallied as the yield on the 10-year US Treasury declined.

**2) Record Big Pharma cash reserves:** Big Pharma had US$1.37tn cash available as of December 12, 2023, the most cash on record (records going back to 2014), excluding 2022.[13]

**3) A steep, fast-approaching patent cliff:** The top 10 Big Pharma companies have 190 drugs that will lose or have already lost patent exclusivity between 2022 and 2030, including 69 blockbuster drugs.[14] New drugs cost billions and take years to develop, so Big Pharma companies often acquire smaller biotech companies that already have clinical proof-of-concept (Phase III or later).

**4) Innovation:** The speed and significance of recent innovations, along with AI's potential impact on the industry, are promising. Within the last couple of years, the industry has commercialised new anti-obesity medications, made advances in diagnostics for disease detection, and developed new genomic and regenerative medicine techniques such as gene and cell therapy. A new era for gene therapy began in December 2023 with the US Food and Drug Administration (FDA) approval of Casgevy, the first FDA-approved therapy to use CRISPR[15] gene-editing technology. Scientific breakthroughs such as these should, we believe, drive returns no matter the market conditions.

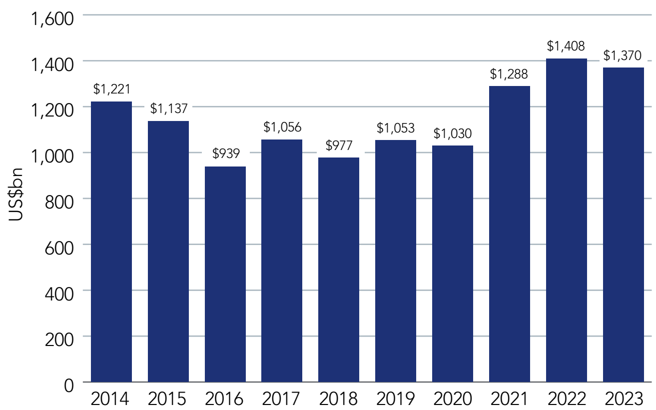
**5) Large and growing market:** The global population is growing and getting older. The percentage of Americans aged over 65 is expected to increase 25% by 2050. People tend to spend more on healthcare as they age.

**6) Artificial intelligence (AI)** can digest and analyse the complex data generated by the healthcare industry, leading to increased productivity and accuracy, lower costs and other as-yet unimaginable outcomes. AI already has proof-of-concept in radiology, where AI is facilitating human diagnosis by extracting more features from images than is possible with the human eye, analysing and classifying images, and making predictions.

[11] Larry Light, "Why Battered Biotech May Be Turning Around," January 2024, Chief Investment Officer. February 2024.
[12] Navigating IRA's Impact on Drug Pricing and Innovation | BCG.
[13] Life sciences dealmaking in a time of change | EY–- Global.
[14] Looming Patent Cliff will be Pharma's Moment of Truth | BioSpace.
[15] CRISPR (short for 'clustered regularly interspaced short palindromic repeats') is a technology that research scientists use to selectively modify the DNA of living organisms.

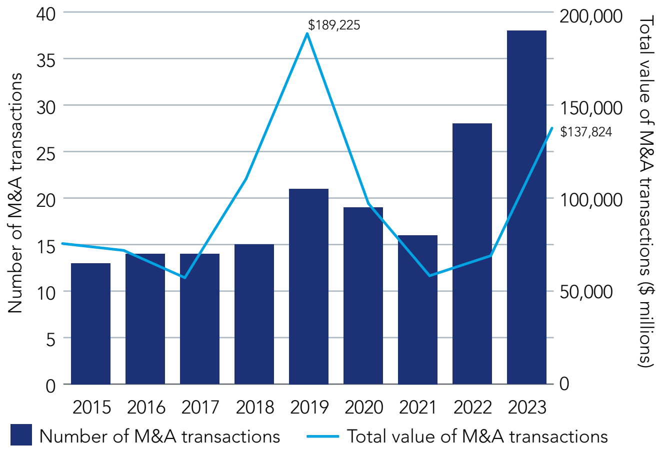
**Figure 4:** Biopharma firepower

Big Pharma has hundreds of drug patents expiring soon and near-record firepower available for deals.



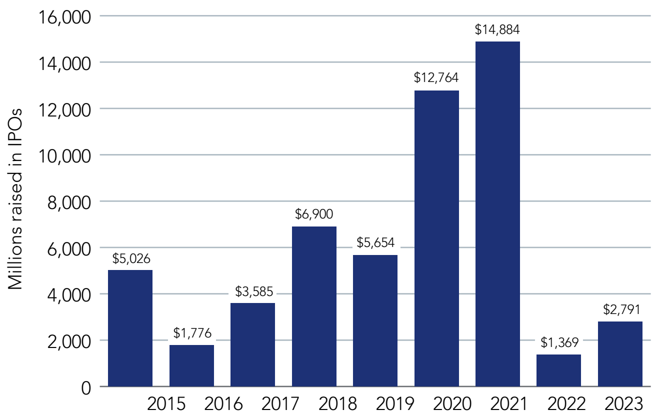

Source: Ernst & Young, Capital IQ as of 7 December 2023.

**Figure 5:** Big pharma-biotech M&A hit a record high of 38 deals in 2023




Source: Evercore ISI as of 31 December 2023.

**Figure 6:** IPO activity is slowly rising




Source: Evercore ISI as of 31 December 2023.

## Key considerations for investors

### Binary outcomes

Biotech is a 'stock-picker's' space. Individual winners have created significant wealth but investing *en masse* in biotech stocks via an index fund can be challenging because winners typically leave the index, either via acquisition or, if investing in a small-cap-focused index, by growing too large. Long-term Russell 2000 Growth Biotechnology Subsector Index performance, for example, has been a rollercoaster ride with high dispersion and volatility. In 2023, 38 deals occurred between biotech and pharma companies, but 18 US biotech and pharma companies filed for bankruptcy protection, a 10-year high (in total 63 biotechs filed from 2013 to 2023).[16]

In 2023,
**38** deals occurred between biotech and pharma companies

Biotech results are binary because returns are driven by successful clinical trials, IPOs, M&A and commercialisation, it takes years to achieve these milestones, and many fail along the way. From 2015 to 2022, companies at Phase III or later stages of development drove more than 70% of biotech M&A activity between big pharma and biotech companies. In 2023, for the first time, more than 20% of deals were Phase I or Pre-clinical. However, deals rarely happen at early stages, instead mostly occurring after drugs have received FDA approval and reached the commercial stage – and only about 14% of all drugs in Phase I of clinical trials go on to achieve FDA approval.[17]

From 2015 to 2022, companies at Phase III or later stages of development drove more than **70%** of big pharma-biotech M&A activity.

[16] Biotech bankruptcies hit 10-year peak in 2023 (fiercebiotech.com).

[17] Chi Heem Wong, Kien Wei Siah, Andrew W Lo."Estimation of clinical trial success rates and related parameters" January 2018. Accessed via American Council on Science and Health, May 2024.

## High costs can be a target for political intervention

Even if a drug does achieve FDA approval in the US, commercial success is not guaranteed. The size of the addressable market, price and the drug's accessibility to patients are also key measures of success. These factors make it more difficult to value biotech companies but give experienced active managers another potential edge.

Regarding pricing, new biotech medicines are generally more expensive than traditional medicines, especially biologics. This is primarily because biologics are large, complex molecules that are more difficult and expensive to develop, get FDA approval, manufacture, and administer to patients. Because of their expense, many new drugs marketed in the US require health insurance coverage to be accessible to most patients – another factor to consider when valuing biotech companies. High costs can also make drugs a target for political intervention, such as IRA price negotiations.

We believe high costs are generally equal to the products being developed. We are cautiously optimistic that governments and insurance companies will continue to pay for drugs with proven, unparalleled health and quality-of-life outcomes. Our active management seeks to find these rare but unstoppable successes in the early stages of their development.

**For further insights on our Kaufmann strategies please click here.**

# Part three:
## The sector in context

# A sector primer: What is biotech?

The biotech industry emerged in the latter half of the last century along with world's first biologics[18], such as insulin and Human Growth Hormone, but the pace of development and market penetration was slow. This is because biotech requires genetic variations to target, and the number of known targets was relatively low until the Human Genome Project set the goal in 1990 to generate the first complete sequence of the human genome.

In 2001, Science and Nature magazine published the near-complete sequence of the human genome, enabling scientists all over the world to begin researching new treatments for diseases that have genetic origins, such as cancer, heart disease, Parkinson's and Alzheimer's. Since then, the number of known targets has increased exponentially, enabling the biotech industry to take off.

Currently, most drugs available on the global market are still small-molecule, chemical drugs. This is changing, however. Biologics currently dominate the global top-selling drugs list[19] and, while much is attributable to higher costs, their share of the global market is 40%[20] and growing. In fact, the biologics market grew more than three times faster than the small-molecule market between 2018 and 2023, by 14% versus 4%.[21]

Currently, most drugs available on the global market are still small-molecule, chemical drugs with biologics only

**2%** of US prescriptions as recently as 2017

Companies in the biotech industry not only make new drugs, they also include service providers and drug delivery companies. Examples of biologics include GLP-1s (anti-obesity treatments), Covid-19 vaccines and human growth hormone (HGH).

## How big is the biotech investment universe?

The Broadridge US 'Equities Theme Biotech' category is made up of **17 funds** totaling **US$23bn** in AUM with one third of those assets in active products.

- For the last three years, this category and custom universe has been out of favor and experiencing outflows (about US$4bn for the Broadridge category and US$31bn for the custom universe).
- A rolling three-year correlation of a small cap biotech index returns to median biotech market cap suggests a cyclical relationship with correlations moving up and down over time.

Source: Federated Hermes, Broadridge as of July 2024.

## Outlook: Six ways AI could revolutionise biotech

Artificial intelligence (AI) could have a significant impact on the biotech industry in the coming decades. Near-term, it will likely help reduce the burden of mundane, administrative tasks. Over time, we might expect AI to reduce how long it takes to move from pre-clinical to Phase I and Phase II trials. Below we consider six areas where AI could change the life sciences game.

**1) Drug discovery:** AI has already proven effective as a way of reducing the time and cost of traditional drug discovery methods. AI algorithms, for example, can screen massive biological datasets and recognize patterns to identify promising drug candidates with high likelihoods of success. By 2025, drug discovery is expected to account for the largest segment of the global biopharmaceutical AI market, with an increase in size from US$159.8m in 2018 to some US$3bn.[22]

[18] The term biologics refers to a class of drugs based on DNA and made with biological material. Until biologics became a point of focus, pharmaceuticals were exclusively made with chemicals. Biologics are typically large, complex molecules.

[19] Pharma Pulse: Top-Selling Small Molecules & Biologics – DCAT Value Chain Insights (dcatvci.org).

[20] Medical biotechnology–- Statistics & Facts | Statista.

[21] Global Pharma Industry Outlook: The Ups and Downs & Projections Near Term – DCAT Value Chain Insights (dcatvci.org).

[22] Statista Biopharma AI market worldwide by application 2025 forecast | Statista.

**2) Drug design:** Generative AI can be a useful tool in developing novel drug designs. It can, for example, expand a chemical library by designing compounds with specific properties such as stability and reactivity. In 2023, Absci, a generative AI drug creation company, was the first to use generative AI to produce novel antibody designs and validate them in the lab. We expect this to be the beginning of a broader trend as pharmaceutical companies begin to understand and to leverage the power of generative AI.

**3) Drug repurposing:** AI also has a role in taking existing drugs and treatments and finding new ways to use them. It has the ability to model proteins in 3D and identify novel targets or binding sites that interact favorably with existing drugs. This, then, can assist in label expansion and in extending the shelf life and profitability of existing treatments.

**4) Clinical trial optimisation:** AI can identify ideal patient populations by cross-referencing bio-markers with electronic health records. This can help find patients who are more likely to respond to treatment. It can also examine correlations in demographics, dose, reported outcomes and toxicities which, in turn, can help identify the lowest possible dose that results in a therapeutic benefit. By doing so it can also help minimize the probability of expensive trial failures.

**5) Healthcare analytics and tools:** AI solutions can collect and analyse medical findings to find trends and patterns. AI-powered tools can help aggregate, summarise, and contextually present the relevant patient records to clinicians.

**6) Diagnostics and prognostics:** Massive amounts of healthcare data are produced every day – patient health records, image data from magnetic resonance imaging (MRI) and computed tomography (CT) scans, disease registries, surveys, medical claims, genomic datasets, clinical trial data – AI can read this complex data to help develop more accurate prognostic tools. It can also read biological data (like genomes) to detect disease biomarkers.

> **AI also has a role in taking existing drugs and treatments and finding new ways to use them.**

# Part four:
The private
markets approach

# 1) A 'picks-and-shovels' route to biotech opportunity

**Christian Mankiewicz**
Head of Portfolio Management, Private Equity

> The private equity team seeks to tap into the biotech growth story through a more defensive route that limits exposure to riskier, early-stage companies. Instead, the team looks to buy into firms that produce the tools and tech that many biotech groups require.

Biotech sits at the intersection between two key megatrends that are reshaping the trajectory of global economic growth. 'Accelerating technological innovation' and 'demographic/ societal change' are among the four secular themes that we believe will drive the global economy over the long term – and the biotech sector is being shaped by both.

These two themes – alongside the shift to net zero and the realignment of the centre of gravity in the global economy – form the core of the thematic framework that guides how our private equity portfolios are positioned.

The rising need for healthcare services across emerging markets and an aging population in the developed world put biotech at the centre of the sustainability story, helping to make healthcare more effective, more personalised and more accessible.

At the forefront of healthcare innovation, biotech is now responsible for the top 10 highest-selling drugs globally[23]. For companies in the sector, an approved drug or treatment offers enormous potential for profitability; drugs enjoy extended patent protection of 12 years, compared to just five for other pharmaceuticals, and are also much more challenging for competitors to replicate. Additionally, biotech firms are often prime candidates for acquisitions by large pharmaceutical groups.

Such high rewards, however, can necessitate higher risk. Biotech is a complex and risky arena for investors; the road to success in the sector is littered with many billions of dollars' worth of failed drugs, trials, and treatments that never make it to market. According to the US National Institutes of Health, only 10% of new drugs survive the rigorous approval process, with an estimated industry spend of US$1.5bn per approved drug[24].

## Enablers: a defensive route into the opportunity

The private equity team at Federated Hermes seeks to participate in the biotech growth opportunity through a more defensive route that limits exposure to riskier, early-stage companies or foundational research where capital intensity is high and outcomes are binary. Instead, the team looks to access the industry via a so-called 'picks and shovels' approach that involves buying into companies that produce the consumables, tools and technologies which many biotech companies require.

As the industry's enablers, such companies often have a recurring revenue model, a high margin and indirectly benefit from biotech growth. However, they are also drug agnostic – able to horizontally address different drug developments that are ongoing at the same time – as well as being diversified across the market.

According to the US National Institutes of Health, only **10%** of new drugs survive the rigorous approval process, with an estimated industry spend of **US$1.5bn** per approved drug

[23] Statista, 2023 (https://www.statista.com/statistics/299138/top-selling-biotech-drugs-based-on-revenue).
[24] Approval success rates of drug candidates based on target, action, modality, application, and their combinations – PMC (nih.gov).
[25] Next-Generation Biomanufacturing Market – Analysis & Forecast | BIS Research.

## Bioproduction: mission-critical technologies

Bioproduction is a biotech industry enabler that produces biological products and chemicals (such as antibodies, antigens and plasma) and sells it into a diverse client base across the biopharma sector. Bioproduction is a large and GDP-agnostic sector, growing at a double-digit rate each year[25].

From an investment point of view, we are identifying opportunities in the space with a high-degree of mission criticality, strong pricing power and limited key inputs.

Going forward, bioproduction is building on disruptive technology that is supporting the next-generation of drug development.

## The private equity gateway

The high-stakes nature of biotech research and development (R&D) makes it difficult for investors to pick the winners. However, by targeting growth-oriented, mature companies and consolidating individual exposure through mergers and acquisitions (M&A), we see opportunity to benefit from the success of the overall industry. Our approach allows us to avoid the extreme volatility of the listed segment and the large corporates where the value creation has already happened. Instead, we are able to target positions in smaller, privately owned, pure-play companies that sit below the mainstream radar and have significant room to grow.

Private equity is among the most effective routes into this lower-risk area of the industry, where the potential for growth remains high.

**For further information on Federated Hermes' Private Equity capabilities, please click here.**

# 2) A life sciences boom and the surge in demand for lab space

**Philip Campbell**
Commercial Director –
Milton Park, MEPC

> The ongoing imbalance between supply and demand of lab space across the UK's 'golden triangle' region – between London, Oxford and Cambridge – continues to create strong rental growth prospects

We are in a golden age for life sciences. In the aftermath of the Covid-19 pandemic, investor interest in life sciences real estate has boomed and a supply-demand imbalance of available lab and manufacturing space has driven rental growth. Industry data shows that the UK's life sciences 'golden triangle' region – between London, Oxford and Cambridge – requires more than 1.8 million sq ft of new lab space[26] to satisfy current requirements.

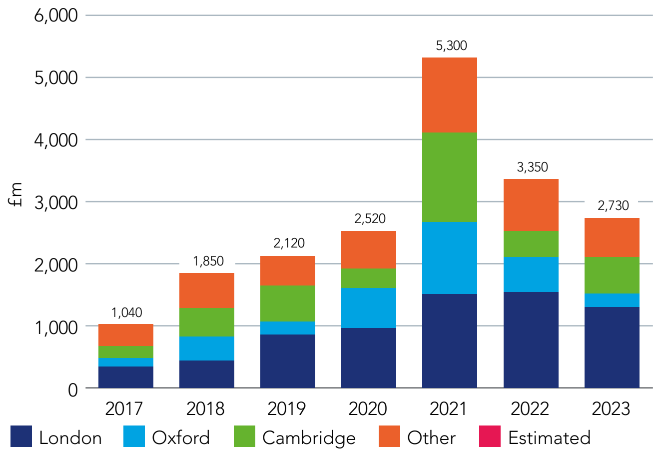
Even before the pandemic, interest in life sciences-related real estate was rising. In 2023, the UK government established the Department of Science Innovation and Technology, putting the sector at the front of the government's priorities. It also published an ambitious 10-point plan to make the UK a 'science superpower' by 2030, which included a £650m support package for the life sciences sector.

Ex-UK Chancellor Jeremy Hunt's Mansion House Reforms announced in July 2023 could funnel up to £75bn into British start-ups by 2030, most of which would likely be directed to high-growth sectors like science and technology, creating a more stable funding environment in the process[27].

While increased investment and focus on life sciences has been welcome, following the Labour party's landslide win in July's general election, it will be critical for the sector to retain cross-party support, maintaining an attractive environment for investors and demonstrating the UK is open for business.

**Figure 7:** Life Science funding within the UK

Total Venture Capital Funding raised by UK Life Science Companies




Source: Pitchbook (all VC Pharma & Biotech, Life Sciences, Ag Tech, Medical Devices, Meditech, Life Sciences (include related keywords) Search HQ only.

Over the last year, both public and private investment has accelerated, while technology and data, artificial intelligence (AI) and other emerging fields are driving further growth in the market.

In total, £339m of assets were bought and sold in the 'golden triangle' region in the first quarter of 2023, an increase over the same period in 2021 and 2022[28], despite the challenge of higher rates.

In the UK, the sector employs more than 280,000 people and contributes £94bn to the economy every year[29]. In addition to Covid-19, the long-term demographic trend of ageing populations in developed countries, and rising demand for medical technology and treatments, are expected to drive structural tailwinds for the life sciences sector.

[26] United Kingdom's Golden Triangle suffering from 1.8msf shortfall of lab space | News | Institutional Real Estate, Inc. (irei.com).
[27] UK government unveils plan to direct £75bn from pension funds to startups | Sifted.
[28] European life sciences real estate set to boom, research finds | News | Real Assets (ipe.com).
[29] Chancellor reveals life sciences growth package to fire up economy – GOV.UK (www.gov.uk).

The ongoing imbalance between supply and demand of lab space across the 'golden triangle' region continues to create strong rental growth prospects. The low vacancy rates for available laboratory space (below 1% in both Cambridge and London and 7% in Oxford[30]) demonstrate the capacity constraints the market is experiencing. The rental premium for fitted lab space when compared to conventional office space is, on average, 70% across the 'golden triangle'[31].

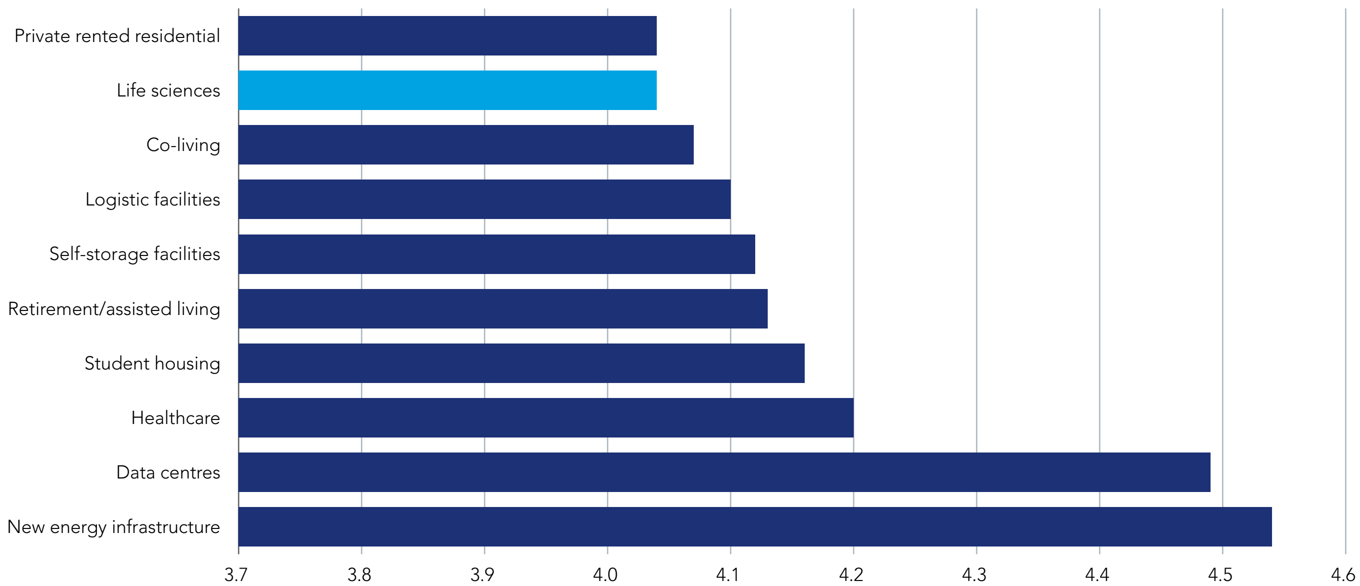
UK life scientists were previously part of Horizon, the European Union's (EU) research community but were excluded for four years following Brexit, resulting in loss of research grants and a 'brain drain' out of the UK. However, last year, the UK was re-admitted to the programme, although negotiations with the EU over some research initiatives remain ongoing. A successful partnership will be crucial to the launch of new life sciences initiatives – and affect subsequent demand for real estate. Despite readmittance to Horizon, it is now more costly to recruit talent from the UK, especially for smaller or early-stage companies.

There is no doubt the sector has taken a huge leap forward, but it still faces challenges. Streamlining the planning system by implementing policies like the Local Development Order adopted at Milton Park, operated by MEPC as part of Federated Hermes' real estate platform, will help to support the delivery of further lab space. Additionally, ensuring sufficient energy resources are available for science and technology occupiers to drive forward innovation is another area where further attention is needed.

Getting the right long-term strategic policies in place to better support science companies' commercial outreach will be pivotal to the sector's fortunes over the coming years.

The trends driving growth of the UK life sciences sector are also evident in Europe, where clusters are emerging near universities and hospitals in France, the Netherlands and Switzerland. The UK faces growing competition from hubs in Paris, Stockholm, Munich, Amsterdam and Medicon Valley in Copenhagen-Malmö.

**Figure 8:** Top 10 European real estate market investment prospects 2024, by sector




Source: PwC, Urban Land Institute.

Federated Hermes' real estate development arm MEPC is the development and asset manager of Milton Park in Oxfordshire, one of the largest life sciences clusters in the UK with 3 million sq ft of floor space (including 800,000 sq ft of laboratory space). Milton Park is home to more than 250 companies and 9,000 employees. Between 2013 and 2022, more than 7% of total UK equity investment in life sciences was secured by Milton Park companies[32].

**For further insights on MEPC and Federated Hermes Real Estate please click here.**

[30] UK needs more lab space if it wants to be science superpower, ministers told | Science | The Guardian.

[31] Savills UK | Spotlight: Golden Triangle Offices & Laboratories.

[32] https://www.miltonpark.co.uk/business/milton-park-companies-secure-over-7-of-uks-life-sciences-investment-2/.

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