EXECUTIVE INSIGHTS

From Bench to Bedside: Academic-to-Industry Translation in European Biopharma

Key takeaways

1. Europe leads in academic biomedical research, publishing over twice as many papers as the US, but lags in commercialisation, with only 70% as many approvals for European-originated assets.
2. Key barriers in Europe relative to the US include weaker institutional support and incentives, lower capital availability and cultural differences, as well as more-fragmented public markets and venture ecosystems.
3. There is encouraging momentum: EU and national initiatives have expanded funding; venture capital investment has more than doubled since 2018; and universities are improving spin-out terms, launching innovation hubs and attracting global talent.
4. Bridging this gap will require coordinated efforts to better support biotech ventures from spin-out to scale-up, strengthen global connectivity, and build the operational experience and networks characteristic of more mature ecosystems like the US.

Introduction

Europe has long stood at the forefront of academic excellence in life sciences. It hosts 37 of the world's top 100 life sciences universities (versus 34 in the US).[1] Moreover, the continent consistently leads the US in biomedical publication volume and citation impact. Yet a persistent gap remains between scientific innovation and commercial output in Europe compared to the US.

As the competition for biotech capital intensifies globally, key questions arise: How can stakeholders across the European ecosystem work to close the translational gap with the US? And what steps can European biotechs take to maximise their chances of success?

Diverging pathways from innovation to impact in Europe and the US

To highlight the commercial gap between the two markets, L.E.K. Consulting analysed the innovation pipeline from academic publication to drug approvals, focusing on drugs originating in academic or biotech institutions.[2]

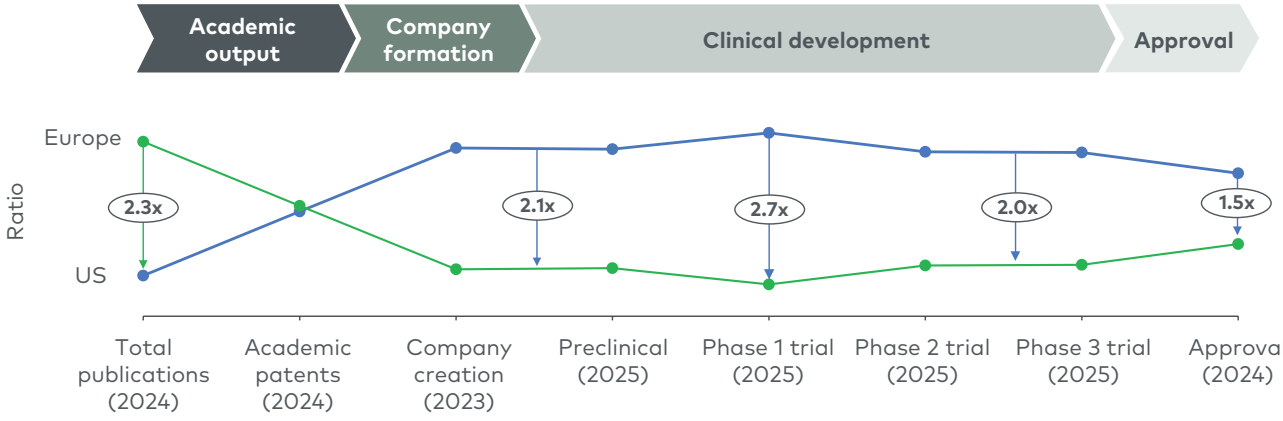
Europe publishes over twice as many publications as the US, but this advantage disappears at the academic patent stage (see Figure 1). In 2023, the US also founded more than twice as many biotech companies as Europe, despite a sharp decline in both regions since 2021.

The gap persists through development to the drug approval stage — US-originated intellectual property (IP) now accounts for 1.5 times more approvals than Europe, and this has been relatively consistent over the past five years.

Europe also lags in company maturation: US-headquartered small biotechs (revenue under $2 billion) independently launched more than three times as many drugs as European biotech peers from 2018 to 2024.

Figure 1

Share of US and Europe absolute total volumes, by region



Note: Preclinical to approval stages reflect drugs originated from academic or small biotech organisations and the originator's HQ region, regardless of any subsequent licensing or M&A activity
Source: PubMed; European Patent Office (EPO); US Patent Office (USPTO); S&P Capital IQ; Pharmaprojects; FDA (Orange and Purple Book); EMA; L.E.K. research and analysis

Within Europe, national ecosystems show considerable heterogeneity. Countries such as Switzerland, the UK and the Nordics have the highest volume of patents and company formation relative to their publication output, driven by stronger technology transfer frameworks, dedicated university commercialisation arms, venture funding and a supportive regulatory environment.

Barriers to translating academic innovation into biopharma output

Several systemic barriers hinder Europe's ability to effectively translate academic research into commercial biopharma products.

1. Limited institutional support

European technology transfer offices (TTOs) are often more resource constrained than their US counterparts, limiting their ability to hire commercially experienced staff.[3] Many focus on administrative or legal support and lack the business expertise needed to guide start-ups,[4] hindering academic ventures from reaching early proof-of-concept and investment readiness.

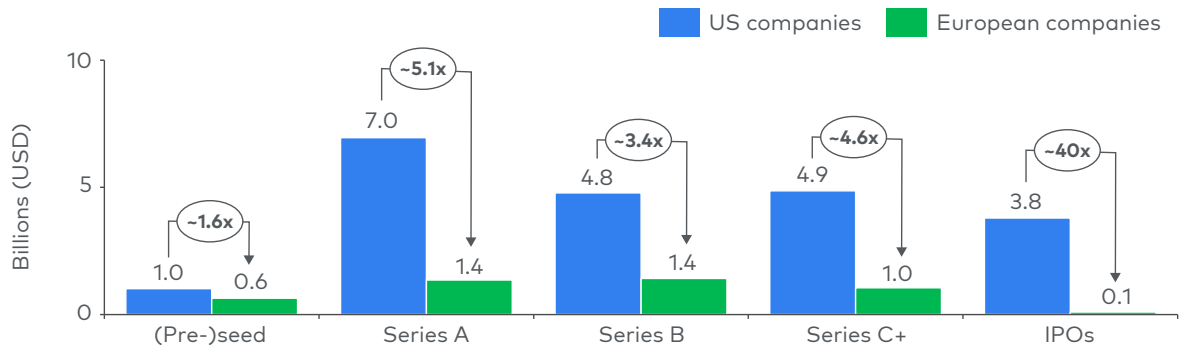
Until recently, many European universities took as much as 30%-50% equity in spin-outs — far higher than the roughly 5% typically taken by US institutions — deterring founders and early-stage investors.

2. Funding gaps and models

In 2024, US-headquartered biotechs secured 1.5 times more venture deals than their European peers — and over four times the value (see Figure 2). This gap is most acute in series A funding, critical for IND or clinical validation, but continues through series C+, limiting European biotechs' ability to fund Phase 2/3 trials.

Figure 2

Total value of biotech venture funding deals, by stage (2024)



	(Pre-)seed	Series A	Series B	Series C+	IPOs
US to Europe ratio of funding volume	1.3x	1.8x	2.2x	2.0x	6.3x

Source: Crunchbase; Labiotech funding and IPO trackers; S&P Capital IQ; L.E.K. research and analysis

Beyond funding, Europe also faces a structural gap in its venture ecosystem. Early-stage venture firms that actively incubate companies (e.g. Flagship Pioneering, Atlas Ventures) — providing direct assistance in navigating the transition from academia to biotech company — are more prevalent in the US.

Although initial public offering (IPO) markets are weak globally, European exchanges have long been less attractive than their US counterparts — offering less capacity, lower liquidity and more-onerous listing requirements. As a result, many European biotechs pursue M&A or list on Nasdaq, which accounted for approximately 70% of European biotech IPO value but only 30% of volume from 2018 to 2024.[5]

3. Talent and cultural differences

Founders and investors in the US are generally perceived to show a higher risk appetite, helping more biotech innovations progress through development. Culturally, US academics also tend to prioritise commercial impact, while European peers focus more on scientific impact, as measured by publications and citations.

4. Ecosystem fragmentation

Europe's fragmented regulatory landscape complicates biotech fundraising and scaling, requiring companies to engage investors across European markets to access growth capital. Navigating differing regulations for fundraising and IPOs requires early strategic planning, with cross-border investor syndicates increasingly essential for later-stage success.

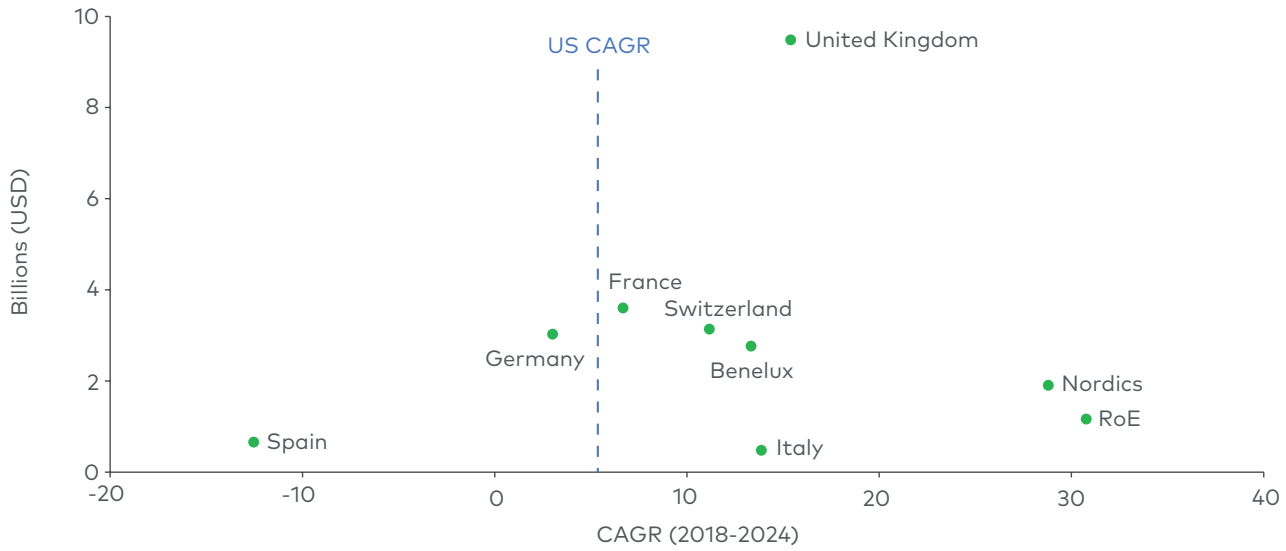
Narrowing the gap: Encouraging signs and opportunities for acceleration

Despite structural challenges, Europe has gained momentum over the past five years, with progress in public initiatives, venture funding and academic infrastructure.

- **EU initiatives:** Programmes like the European Innovation Council, European Investment Fund, European Innovation Council Small and Medium-sized Enterprises Executive Agency and Horizon have increased non-dilutive and blended finance to €1.4 billion in 2025 across industries, up from €1.2 billion in 2024.
- **National support:** National governments are also mobilising institutional and pension fund capital to support domestic innovation and later-stage venture funding (e.g. France's Tibi 2, Germany's WIN and the UK's BPC).
- **Venture growth:** Despite a global downturn in biotech funding after 2021, European venture funding has returned to growth. More than doubling in value from 2018 to 2024, this has been led by the UK, Italy, the Nordics and Benelux. While US funding remains higher overall, Europe's recovery has been faster and more stable in recent years (see Figure 3).

Figure 3

Total value and growth rate of funding deals, by country (2018-2024)



Note: CAGR=compound annual growth rate; RoE=rest of Europe
Source: Crunchbase; L.E.K. research and analysis

- **Founder-friendly TTOs:** TTOs are adopting more-favourable terms for academic founders. For instance, UK universities have cut equity stakes by nearly 20% since 2020, with 2024 notably recording the highest number of pharma spin-outs since 2021.[6]
- **Global talent repatriation:** Regulatory uncertainty and immigration policy in the US may prompt researchers to relocate to Europe's growing ecosystems. New initiatives for attracting US researchers include Aix-Marseille's €15 million Safe Place for Science, which drew almost 200 US applicants in its first month; a £50 million scheme by the UK government; and a "science passport" proposed by the EU to ease mobility.
- **Incubator growth:** European pharma companies are partnering more actively with academia through incubators and venture arms to derisk early-stage research. Novo Nordisk's Science2Medicine iNNvest is one recent example.
- **University innovation hubs:** Top universities are launching dedicated hubs to strengthen ties with industry. For example, the University of Cambridge's Milner Therapeutics Institute and the University of Oxford's BioEscalator offer infrastructure, funding support and co-location opportunities for academic entrepreneurs and biotech start-ups. Starting with Oxford in 2013, many European institutions have also launched in-house venture funds.

Strategic imperatives for the European biotech ecosystem

To narrow the translational gap with the US, Europe must complement scientific excellence with stronger institutional, financial and commercial infrastructure. While biotech founders are central to this progress, coordinated action across academia, public institutions, industry, investors and policymakers is essential.

Our recommendations for each group are listed below:

- **Academia:** Modernise spin-out models to facilitate commercial outcomes by offering attractive equity and IP licensing terms, further professionalise and better resource TTOs, and consider establishing or growing venture arms.
- **Public institutions:** Increase public funding to derisk early-stage innovation and attract private investment, enable talent mobility, invest in infrastructure and implement founder-friendly policies. At later stages, employ mechanisms such as blended finance to extend company runway.
- **Large and midsize biopharma:** Engage early with emerging biotechs through partnerships, licensing and minority investments while addressing late-stage funding gaps via co-development and hybrid financing structures.
- **Investors:** Broaden investment support across the funding life cycle, particularly from series A onwards, and collaborate internationally to enable scaling.

In the race to commercialise innovation, European biotechs must now compete not only with well-capitalised US peers but also with China's rapidly advancing biotech sector. To stay competitive, they can draw lessons from European success stories such as argenx and Immunocore, which have effectively bridged the gap from science to market.

Case studies of successful European biotechs demonstrate how early proof of concept and strong life cycle potential can unlock global funding

- **argenx (Belgium/the Netherlands):** Gained investor traction by targeting a well-characterised pathway in autoimmune disease with broad applicability. Its early Vyvgart data provided clear clinical proof of concept, while the platform's potential across multiple indications created a compelling LCM narrative. This combination enabled argenx to secure major global partnerships, scale rapidly and list on both Euronext and Nasdaq.
- **Immunocore (UK):** Spun out from the University of Oxford, Immunocore leveraged its proprietary T-cell receptor (TCR) platform to target cancer and infectious diseases. Early institutional support, a clear IP pathway and robust international investor engagement enabled it to scale through clinical trials and achieve Food and Drug Administration approval for Kimmtrak, the first TCR therapeutic approved in the US.

Key practices include:

- **Prioritising differentiated, derisked assets** with clear clinical potential and room for life cycle expansion
- **Running lean and capital-efficient operations** to extend runway and maintain optionality
- **Forming early strategic partnerships** with global pharma to fund trials, enhance credibility and share risk
- **Engaging international investors and regulators early** to secure access to capital, markets and approval pathways

By adopting these strategies, Europe's emerging biotechs can chart a more direct course from discovery to global impact.

Conclusion

Europe has no shortage of scientific talent or breakthrough innovation. The challenge lies in building the institutional and financial bridges to convert this potential into sustained commercial impact.

Encouraging signs are emerging- Structural reforms are taking hold, venture funding is growing, and leading universities and companies are fostering more founder-friendly models. Yet persistent challenges, such as fragmented markets, a risk-averse culture and late-stage funding gaps, continue to hold Europe back.

How L.E.K. can help

To compete globally, European biotechs must be strategic and efficient. That means developing differentiated, derisked assets; operating with capital discipline; forming early partnerships with global pharma; and engaging international investors and regulators from the start.

With the right ecosystem support and a globally minded approach, Europe can convert its scientific potential into lasting biopharma leadership.

Contact the team to find out how L.E.K. can help.

The authors would like to thank Katharina Novikov for her support in the development of this *Executive Insights.*

Stage definitions and scope of inclusion

- **Publications:** Total number of publications on PubMed, by location of the first author's affiliated institution

- **Academic patents:** Total number of patent applications generated by universities and other academic institutions from the Worldwide Patent Statistical Database PATSTAT, provided by the European Patent Office (EPO), by location of the applying academic
- **Company creation:** Total number of newly formed therapeutic biotech companies on S&P Capital IQ (excluding medtech, diagnostics, other healthcare providers, etc.), by company headquarters
- **Preclinical to Phase 3 trial:** Total number of drugs in active development at the respective stage of development (highest phase reached) on Pharmaprojects with biotech originator irrespective of later acquisitions or out-licensing activity, by location of originator headquarters

Endnotes

[1]L.E.K. analysis of Times Higher Education World University Rankings 2025

[2]This was considered irrespective of which company ultimately developed or commercialised the drug.

[3]Global University Venturing, "Technology transfer offices struggle with recruitment and pay gaps."

[4]Technovation, "Understanding the roles and involvement of technology transfer offices in the commercialization of university research," Labiotech.eu, "How technology transfer offices can navigate biotech commercialization."

[5]L.E.K. analysis of S&P Capital IQ, Labiotech IPO Tracker and Crunchbase

[6]Beauhurst and Royal Academy of Engineering, "Spotlight on Spinouts: UK Academic Spinout Trends."

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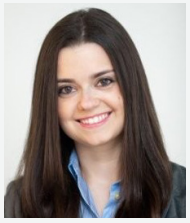

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