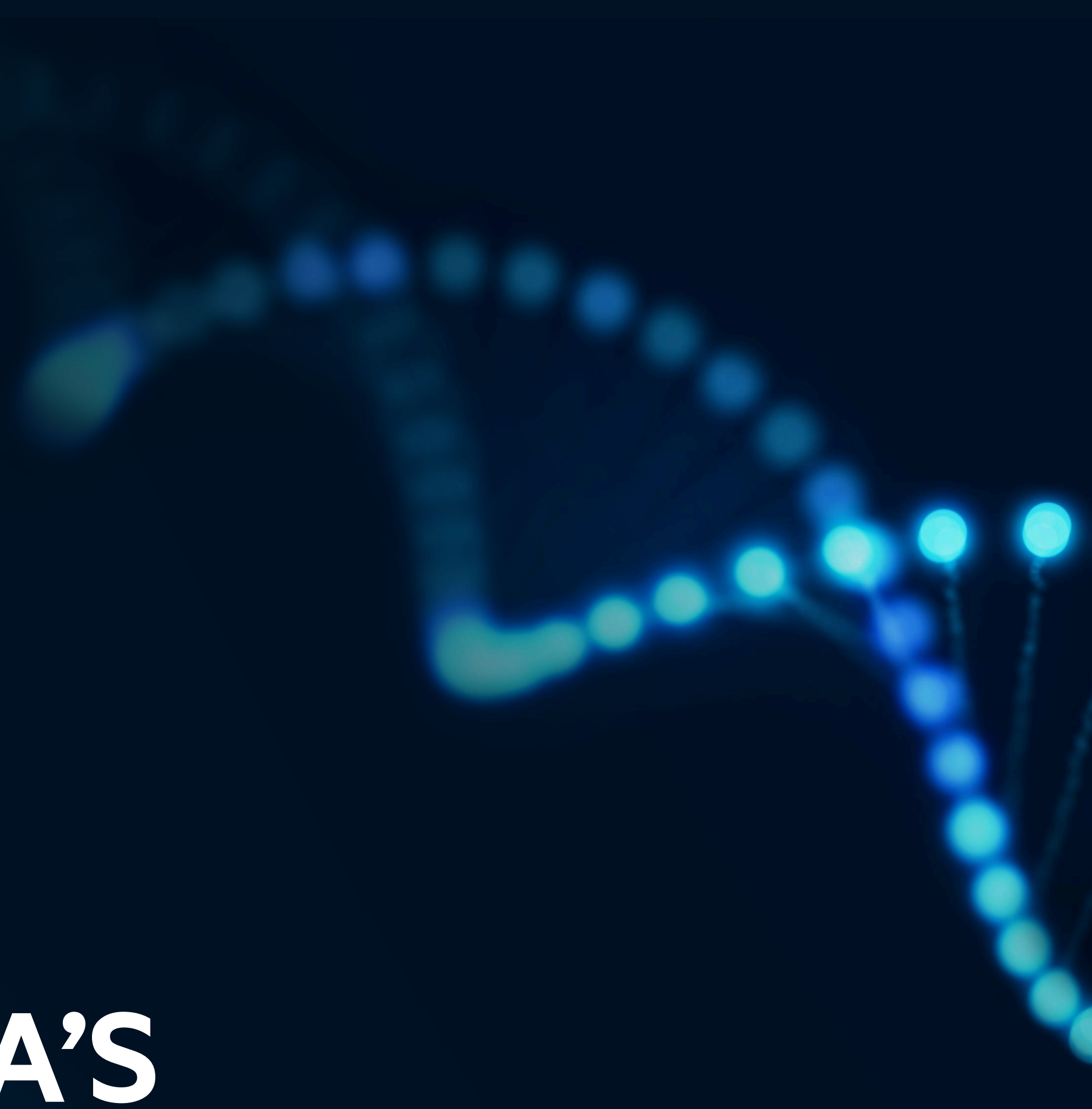


A stylized, glowing blue DNA double helix structure is visible in the background, curving across the upper right portion of the page.

CHINA'S BIOTECH BOOM

New dynamics in global drug development

An FT Live report
pharma.live.ft.com

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1 From generics to innovation

China is establishing itself as a leading force in global pharmaceuticals, shifting from a producer of copycat medicines to a source of biotech innovation. State backing, long-term economic planning and a strong base of scientific education have supported rapid industrial development, where biotech has been treated as a strategic sector.

Chinese biotechs have developed a reputation for speed and comparatively low cost of drug development and clinical trials. Investors are increasingly betting that China will play a larger role in global drug discovery, particularly as parts of the western biotech sector face difficulties in bringing new treatments to market.

The shift is best reflected in global research pipeline data. China's share of innovative drug candidates in clinical trials rose from 8 per cent in 2018 to 30 per cent in 2025, according to McKinsey. By contrast, the US share declined from 47 per cent to 36 per cent over the same period.

This shift comes as many western pharmaceutical groups face looming patent cliffs, placing pressure on future revenue pipelines. At the same time, Chinese drugmakers have become an increasingly important source of new intellectual property, striking a record number of overseas licensing deals in 2025: the country's share of out-licensing agreements to the US and Europe has risen from 2 per cent in 2018 to 20 per cent in 2025.

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Ten years ago, China didn't have a biotech sector to speak of. For the most part, the companies were developing generic drugs. Fast forward to today, and every big pharma is doing most of their shopping in China for novel therapies.

Brad Loncar, founder, BiotechTV

Policymakers and industry executives are increasingly concerned that China's rise could erode the west's longstanding lead in pharmaceutical innovation. Some executives and investors have warned privately that their companies risk ceding ground in drug development as Chinese competitors advance. As a result, the scale and pace of China's biotech expansion has become a key trend for the global industry.

2 China's competitive edge

Sources of China's growing competitive advantage are myriad and complex, but largely rooted in sustained state support. Measures introduced in the mid-2010s, including faster regulatory approvals, looser constraints on clinical trials and stronger intellectual property protections, have made it easier for biotech companies to raise capital and pursue innovation.

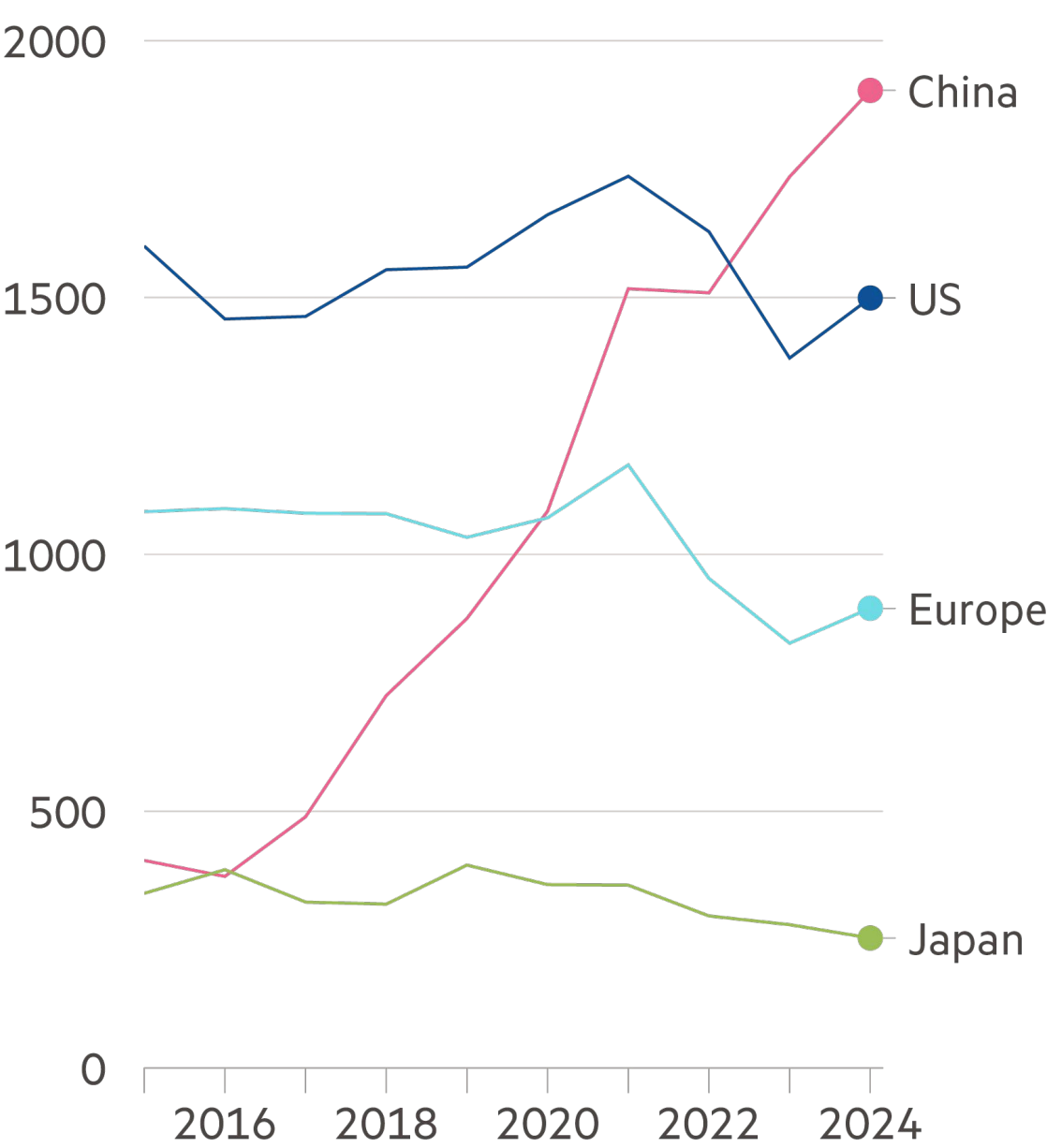
Beijing continues to adapt its approach to supporting its biotechs by introducing new supportive measures such as subsidising facilities in industrial parks, providing direct financial support and delivering administrative assistance from local authorities such as those in Shanghai's high-tech industrial Lingang zone.

Streamlined testing and approval processes have been pivotal in giving Chinese biotechs an advantage in bringing new drugs to market. Shorter clinical trial timelines, combined with regulatory changes, have reduced delays that are more common in western systems. BiBo Pharma, for example, received approval for construction plans in nine days, compared with timelines that can extend to several months in parts of Europe.

According to McKinsey, Chinese drugmakers move considerably faster than the global average in advancing a target molecule into a drug candidate. Patient enrolment in clinical trials takes around half the global average time, while the cost per patient is roughly 50 per cent lower than in the US and Europe.

China has conducted more trials for innovative drugs than the US since 2023

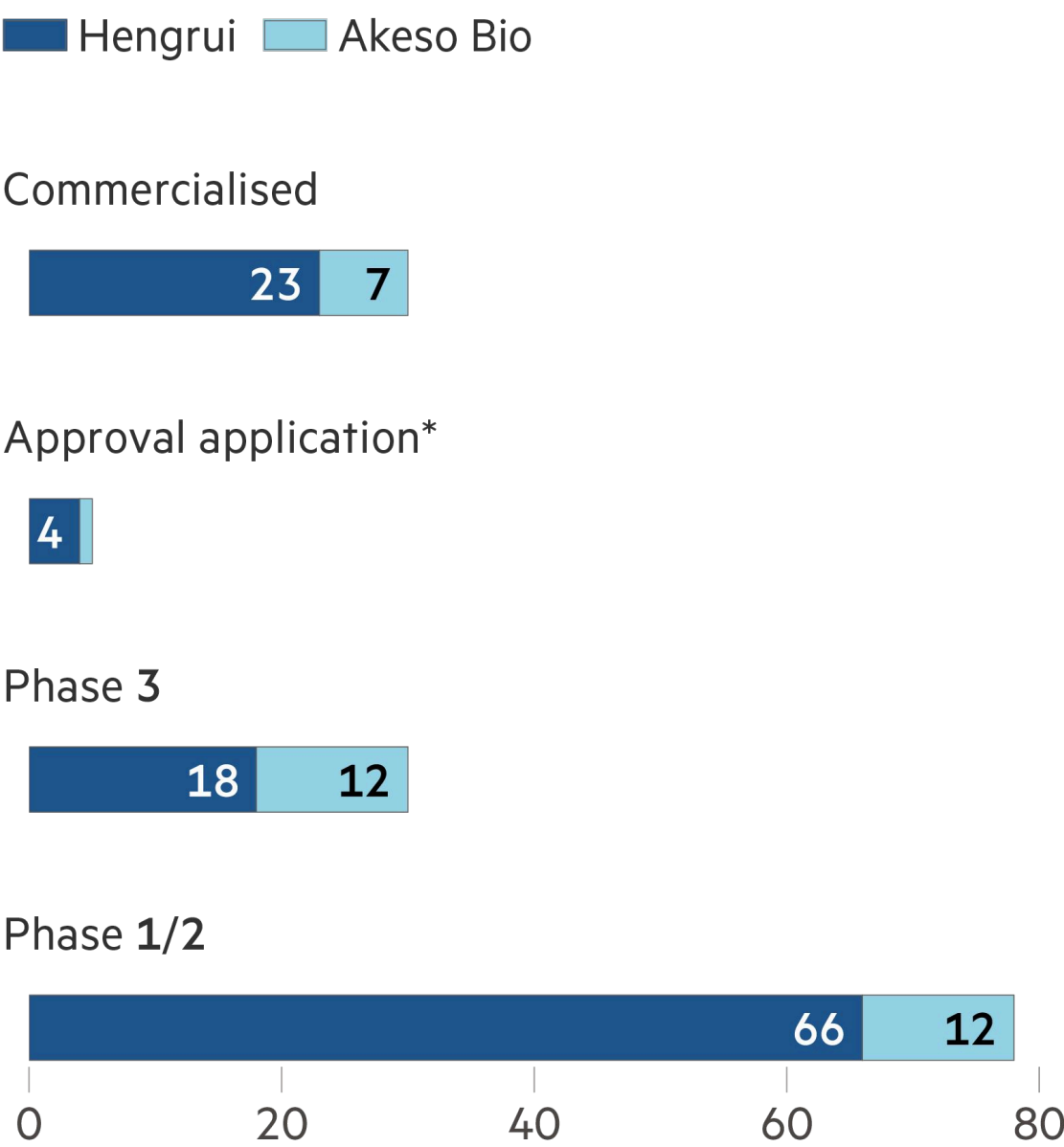
Number of clinical trials, by area



Source: PharmCube • Data only covers industry-sponsored trials

Hengrui and Akeso have a broad pipeline of drugs

Number of drugs, by company and pipeline stage



Source: Company reports, FT research • *Includes new drug application and biologics license application. Data as of H1 2025

By comparison, working with hospitals and recruiting patients in Europe is far slower. Steve Ruston, chief executive of Persica, a UK biotech developing treatments for chronic lower back pain, has described the process as a “nightmare”, with contracts often taking months to finalise.

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A project that takes a US CRO six to eight weeks would take a Chinese company about three...For early-stage companies with no revenue, every day you are waiting is money you have to set on fire

Egan Peltan, co-founder and chief executive officer, Stealth Biotech

In addition to regulatory reforms, the Chinese state has invested heavily in developing a large and skilled workforce across the biotech value chain, from researchers and equipment specialists to construction teams supporting manufacturing capacity. Much of this talent is domestically trained, although a proportion has international experience, strengthening the industry's technical capabilities.

China has expanded its role across the biopharmaceutical value chain, becoming a centre for outsourced manufacturing and, increasingly, for drug development services. This shift has supported the growth of clinical research organisations and contract manufacturing groups that develop and produce medicines on behalf of biotech companies.

The advancement of these capabilities has allowed institutional knowledge to build at scale. As a result, Chinese CROs and CMOs have become integral to drug development, serving not only domestic companies but also international partners.

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Initially, the industry used Chinese CROs because they were cheaper. That is no longer true; their prices are similar. We use them because of the efficiency and time savings.

Egan Peltan, co-founder and chief executive officer, Stealth Biotech

3 Licensing and partnerships

There has been a marked increase in partnerships between Chinese biotech companies and global drugmakers. There were 93 overseas licensing deals in the first eight months of 2025, worth a combined \$85bn, according to PharmCube. The total value of such agreements is on track to reach a sixth consecutive annual record.

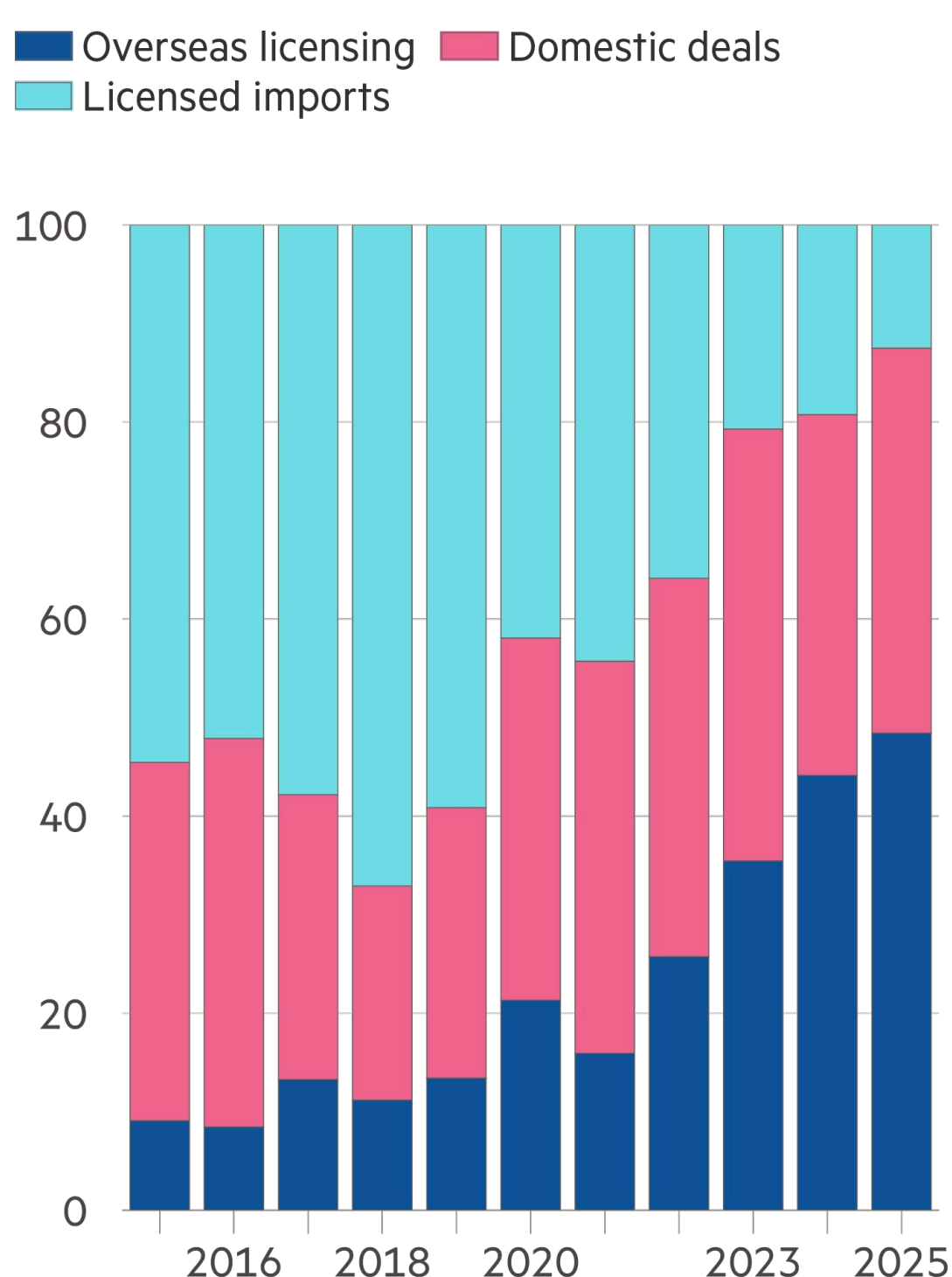
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If you want to bring new medicines through, the whole contracting and decision-making process has to be looked at . . . If China can do clinical trials faster, that has to be of interest.

Steve Ruston, chief executive officer, Persica

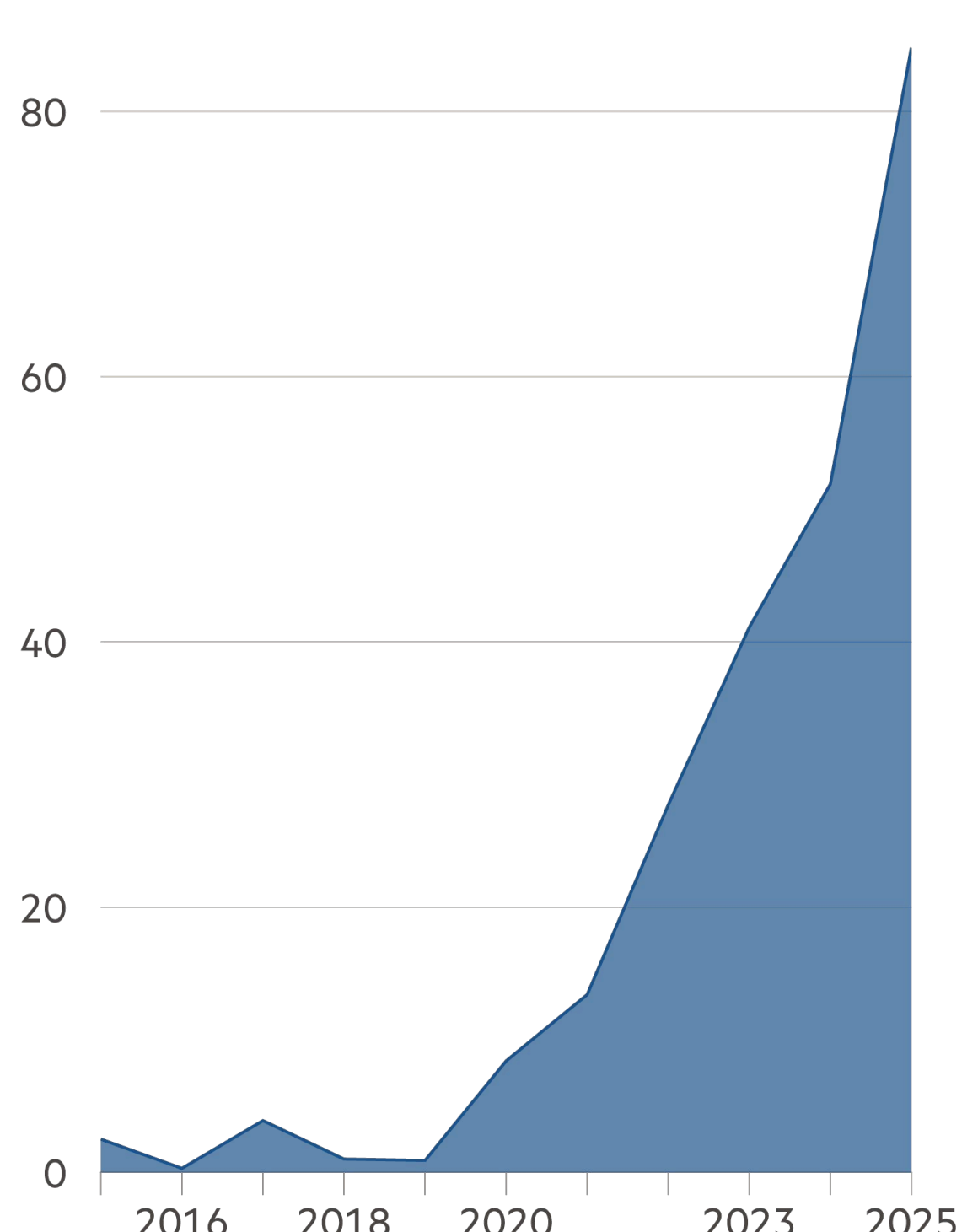
China’s drugmakers are pivoting to overseas licensing ...

Share of licensing deals for innovative drugs, by type (%)



... with transaction values hitting a record high this year

Overseas licensing deal value (\$bn)



Source: PharmCube • Data only covers innovative drugs and technology platforms, excluding prophylactic vaccines, generic drugs, improved new drugs and biosimilar products. Data for 2025 as of August

This sustained deal activity has supported a rally in biotech equities. The Hang Seng Biotech index, which tracks the 50 largest such companies listed in Hong Kong, returned about 30 per cent in the year to April 2026, compared with 18 per cent for the broader Hang Seng index.

A key driver of this interest in Chinese assets is the scale of upcoming patent expiries. Evaluate Pharma estimates that drugs generating around \$180bn in annual revenue, equivalent to about 12 per cent of the global market, will lose patent protection by 2028.

There have been a series of high-profile transactions in recent years, with large multinationals often targeting smaller biotechs where much of the industry's innovation originates. More than \$85bn of licensing deals involving Chinese companies have been signed across over 100 transactions. Most of these agreements focus on early-stage assets, with overseas partners assuming responsibility for later-stage trials and commercialisation outside China.

GSK agreed a partnership worth up to \$12bn with Jiangsu Hengrui, covering a potential treatment for chronic obstructive pulmonary disease and a broader pipeline of medicines, making it one of the largest deals of its kind.

Similarly, Novartis announced a \$5.2bn licensing agreement in September 2025 with Chinese biotech Argo to access its siRNA technology. In June 2025, AstraZeneca struck a deal worth up to \$5.2bn with CSPC Pharmaceuticals, further underlining the growing role of Chinese companies in global dealmaking.

For many Chinese biotechs, the rise in international partnerships has provided an important source of capital after a challenging period marked by domestic drug pricing reforms that compressed margins. In addition, access to global partners can support continued investment in research while providing exposure to expertise in late-stage development and commercialisation, according to Chen Chen, a pharmaceuticals analyst at UBS.

Partnerships with western groups also provide valuable insight into global regulatory and commercial practices. While Chinese companies continue to build experience in areas such as regulatory filings and market access, these collaborations help bridge capability gaps.

They also support continued investment in innovation while allowing Chinese biotechs to draw on partners' strengths in clinical development and commercialisation, according to Chen.

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China's early-stage R&D is now globally competitive. But for late-stage development – overseas trials, regulatory filings and commercialisation – Chinese firms still have significant room to grow.

Chen Chen, pharmaceuticals analyst, UBS

4 Geopolitical constraints

Despite China's rapid progress, the US remains dominant in bringing late-stage drugs to market. Oliver Kenyon, senior director at life sciences investor RTW, has described it as “the only game in town” at the commercialisation stage.

The west continues to benefit from established venture ecosystems, deep capital markets, regulatory expertise and well-developed commercial pathways. These advantages still present significant barriers for Chinese companies seeking to compete across the full drug development cycle.

However, concerns over China's rapid ascent remain. These go beyond merely economic interests as growing Chinese dominance in global biotech could also present a severe threat to western nations' national security.

The US and Europe are increasingly treating human biological data as a strategic asset, comparable to the technologies underpinning advanced semiconductors or artificial intelligence.

This biological information, often referred to as multiomic data, forms a core foundation for modern drug development, particularly in areas such as personalised medicine. When aggregated at scale, such data can reveal patterns in population health and disease, offering insights that carry both commercial value and potential strategic sensitivity. Control over such data can confer a competitive advantage in next-generation drug development and may be weaponised by malicious actors.

Policymakers in the west are beginning to respond more actively to these risks. In December 2025, US lawmakers passed the BIOSECURE Act, which restricts federal agencies from procuring biotech equipment or services from companies with links to foreign military or intelligence bodies. The legislation also places limits on the transfer of biological data to foreign governments and tightens requirements around the collection of genomic data, including the need for informed consent.

The Act is introducing a new layer of uncertainty for pharmaceutical supply chains and sourcing strategies. In the months leading up to its passage, US companies moved to reassess their exposure, with some scrambling to secure alternative arrangements.

Bristol Myers Squibb, for example, drew up contingency plans to “protect the continuity of supply” of its medicines. Failure to comply with the legislation could result in the loss of federal grant funding and exclusion from Medicaid, a key source of revenue for many pharmaceutical groups.

The final version of the law is less stringent than some had expected. It does not explicitly designate major contractors such as WuXi AppTec and WuXi Biologics as foreign adversaries, companies that are deeply embedded in the US pharmaceuticals supply chains. Their products support production of components used in 24 approved medicines and hundreds more in clinical development, according to data from WuXi Biologics.

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There is a joke in the US biotech industry that if you want to run a study, you ‘just WuXi it’

Ashoka Rajendra, founder, Orchestra

However, the final list of companies linked to foreign adversaries has not been finalised yet. The Pentagon has indicated that WuXi AppTec could be added to the list at a later stage. The prospect of further additions is compounding the anxiety among pharma leaders and making it difficult to commit to long-term investment decisions.

The legislation is already influencing dealmaking and expansion strategies. In February 2026, China’s MGI sold its US subsidiary, Complete Genomics. The move marks a shift from the company’s position in 2024, when it had stepped up its US expansion plans, promoting sequencing machines capable of decoding a full genome for less than \$100. This price point marked an important threshold in a field defined by high research costs.

In Europe, the proposed Critical Medicines Act treats these networks as strategic infrastructure, with a focus on reducing dependence on a small number of supplier countries. More than 80 per cent of critical inputs are sourced from just five markets, led by China at 45 per cent, followed by India, Indonesia, the US and the UK.

The proposal incorporates biosecurity considerations into a framework that has traditionally been guided by commercial and scientific priorities. However, rather than taking a restrictive approach, the EU is emphasising competitiveness and capacity building to strengthen its domestic capabilities.

Ultimately, this approach posits a contradiction between the logic of scientific advancement that rests on the approach of openness and national security priorities, which prioritise confidentiality and data security.

US policymakers have warned that if China secures a lasting lead, global drug development could begin to shift decisively in its favour. Research pipelines may increasingly be run through China, more high-skilled talent could be drawn there, and new therapies might reach Chinese patients ahead of those in western markets. Supply chains, in turn, would be shaped more by China's priorities.

At the same time, there are concerns about the implications for patients in the west. Slower access to advanced treatments would come at a time of ageing populations, with the potential to place further strain on public finances already under pressure in many countries.

Despite the pace of Chinese industrial development, there are limits to how quickly Chinese companies can match the scale of established global groups. Aaron Gu of Han Kun Law Offices has warned that it will take “many years” before Chinese biotechs reach the level of companies such as Johnson & Johnson or AstraZeneca.

This gap is reflected in market valuations. No Chinese company currently ranks among the world's 20 largest listed pharmaceutical groups by market capitalisation, a cohort still dominated by US companies.

Scaling Chinese biotechs will require building international sales networks, navigating complex foreign regulatory systems and establishing supply chains beyond their domestic market. These are capital-intensive efforts, and many Chinese biotechs remain unprofitable, with volatile revenues that limit their ability to invest at this level.

For now, they continue to rely widely on partnerships with western companies, whose proprietary technologies and commercial models are more established. Even so, the pace of China's progress is undeniably rapid, and its companies are emerging as credible innovators and competitors with ambitions to reshape the global life sciences landscape.

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Chinese biotech clearly represents a structural shift in global drug development . . . We don't think it's a cyclical phenomenon...they're here to stay.

Oliver Kenyon, senior director, RTW



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