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Empowering Biotech Innovation in Asia-Pacific

Asia-Pacific's emerging leadership and Singapore's strategic role in biotech are shaping the future of medicine.

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Authors and acknowledgments

This report was jointly produced in a collaboration between Bain & Company, A*STAR, EDB Singapore, J.P.Morgan, and SG Growth Capital. Contributing authors are as follows:

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At a Glance

- As scientific research faces pressure in the US, global pharma is sourcing innovation from the Asia-Pacific region, which is gaining relevance in advanced modalities.
- Investors are increasingly risk-averse, so the public sector plays a key role in seeding innovation by investing in early-stage technology, providing regulatory support, and supporting infrastructure development.
- China has long been Asia-Pacific's biotech leader in terms of scale, but Singapore is emerging due to its commitment to innovation, political neutrality, intellectual property protection, and regulatory alignment.

This report explores the evolving dynamics of the Asia-Pacific biotech industry, examining how the region is increasingly positioning itself as a global innovation hub. Developed in collaboration with the Agency for Science, Technology and Research (A*STAR); the Singapore Economic Development Board (EDB); J.P.Morgan; and SG Growth Capital, it draws on analysis of investment trends, policy shifts, and scientific advancements.

As geopolitical uncertainty and tightening US research budgets prompt a global realignment of innovation strategy, Asia-Pacific stands to benefit. With private capital shifting toward later-stage, lower-risk biotech assets, public institutions across the Asia-Pacific region are stepping in to support early-stage research and development (R&D). At the same time, the region is gaining momentum in next-generation modalities—such as mRNA, cell and gene therapies (CGTs), antibody-drug conjugates (ADCs), and artificial intelligence (AI)-led drug discovery incorporating the latest in AI capability—making Asia-Pacific increasingly relevant in the global biotech landscape.

This report assesses Asia-Pacific's current position in the global biotech ecosystem, identifies emerging areas of strength, and outlines the roles of key stakeholders in unlocking long-term potential. Intended for industry leaders, investors, and policymakers, this paper offers a structured view of where Asia-Pacific biotech is heading, what's fueling its growth, and which actions are needed to scale the next wave of breakthrough innovation.

Executive summary

Biotech firms, global pharmaceutical companies, and national governments all play distinct roles in shaping the Asia-Pacific region's biotech future. Biotechs are the source of innovation and IP; big pharma often partners with smaller biotechs to support early-stage research; and governments can help attract talent, provide streamlined regulatory processes, and offer co-funding initiatives that encourage private investment. With the relationships among capital, policy, and innovation rapidly evolving, it's essential to understand how those roles interconnect to accelerate innovation. This framework helps clarify where coordinated action is most needed to unlock Asia-Pacific's full biotech potential.

Implications for Asia-Pacific biotechs

- Asia-Pacific is gaining global relevance in advanced modalities like mRNA, CGTs, ADCs, and AI-enabled drug discovery, and the region is emerging as a global biotech innovation hub.
- China has long been the engine of biotech investment in Asia-Pacific, accounting for over 75% of regional venture capital (VC)/private equity (PE) funding since 2019. If adequately funded, Chinese firms have the potential to challenge and potentially surpass Western players in first-in-class assets over the next five years.

Implications for global pharma

- Global pharma is intensifying its focus on Asia-Pacific innovation, primarily through licensing deals, asset acquisitions, and partnerships with local ecosystems to incubate start-ups. Mounting competition for differentiated assets is driving up valuations and compressing deal timelines.
- Geopolitical tensions are prompting shifts in biotech strategies. Evolving US–China trade relations are impacting the preclinical stages of the contract research organization (CRO) and contract development and manufacturing organization (CDMO) segments. Although the BIOSECURE Act has stalled, many US pharmaceutical firms are beginning to rethink their reliance on Chinese CROs and CDMOs, shifting toward geographic diversification to hedge against geopolitical risk.
- Tightening US National Institutes of Health (NIH) funding is expected to constrain early-stage research and reduce academic grant availability, leading to talent migration. As early-stage innovation faces pressure in the US, global pharma companies are sourcing innovation from other regions like Asia-Pacific and expanding their own R&D capabilities within the region.

Implications for Asia-Pacific governments

- With VC/PE funding flowing toward later-stage, clinically validated biotechs, public funding is becoming increasingly important, supporting early-stage innovation through grants, sovereign funds, and public-private partnerships.
- Asia-Pacific governments are playing a critical role in growing the biotech ecosystem with public capital, translational infrastructure, incubator programs, and unique talent recruitment strategies.

- Favorable IP regimes, tax incentives, and regulatory reforms—particularly in Singapore—are positioning Asia-Pacific as an attractive destination for global biotech investment.

Singapore's opportunity to strengthen its global biotech footprint

- Singapore is emerging as a strategic hub for global biotech, hosting regional headquarters for major pharma companies and drawing top-tier scientific and regulatory talent. Its commitment to innovation, political neutrality, strong IP protection, legal transparency, and regulatory alignment make Singapore especially appealing for biotechs navigating geopolitical tensions.

- While global markets experience volatility, Singapore maintains steady, long-term funding for basic research and critical infrastructure through public agencies like A*STAR and national platforms such as Experimental Drug Development Centre (EDDC) and Diagnostics Development Hub (DxD Hub), ensuring that foundational scientific capabilities remain robust regardless of economic cycles.

- By implementing systematic talent development and infrastructure investment, Singapore creates a stable and facilitative environment where biotechnology start-ups can focus on innovation rather than navigating fragmented support systems, positioning the nation as a reliable destination for early-stage ventures seeking to scale globally.

Implications for Asia-Pacific biotechs

The dynamics of Asia-Pacific's biotech market are shifting along with funding behavior, modality innovation, and geopolitical uncertainty. These changes are prompting biotech firms across the region to reevaluate how they secure capital, advance their pipelines, and position themselves globally.

Investors are redirecting capital from early-stage ventures toward later-stage, less risky biotechs, requiring companies to advance pipelines quickly and efficiently.

Shift toward late-stage investment

Biotech investment dynamics across the Asia-Pacific region are undergoing a marked transition. With investor sentiment becoming increasingly risk-averse, funding patterns are shifting away from early-stage ventures and toward more mature, clinically validated projects. From 2019 to 2024, deal volume for late-stage expansion/growth rounds increased 1.5x, while early-stage funding declined at a CAGR of 11%. This evolution signals heightened investor scrutiny and an increased demand for demonstrable progress in pipeline development.

For Asia-Pacific biotech firms, this means pressure to operate more efficiently, prioritize less risky projects, and present clear commercialization pathways from the outset. Countries with streamlined regulatory frameworks, deep preclinical infrastructure, and skilled workforces—such as China, South Korea, and Singapore—are well positioned to capitalize on this funding realignment.

Public funding is filling early-stage investment gaps

With private VC cooling, public funding mechanisms are helping to sustain—and in some cases realign—innovation.

As private VC activity continues to cool across the Asia-Pacific region, several Asia-Pacific governments have stepped in with targeted programs that offer both capital and infrastructure support, effectively bridging early-stage financing gaps. These public financial support vehicles are playing a critical role in translating early scientific discoveries into clinically and commercially viable assets. In some cases, public sector involvement is also realigning private innovation with state-driven policy goals.

In South Korea, the Korea Drug Development Fund (KDDF) is providing non-dilutive grants and technical support to promising therapeutic candidates. KDDF has committed US$1.6 billion to support more than 1,200 drug development projects by 2030. In Japan, the US$366 million Bioventure Support Program provides early-stage capital and critical infrastructure to support biotech start-ups. In India, the Biotechnology Industry Research Assistance Council (BIRAC) provides early-stage funding and low-interest loans to biotech ventures. All of these entities are playing a vital role in advancing drug discovery.

In China, government-affiliated limited partners and state-owned enterprise consortia are also filling gaps created by the contraction of private equity activity. While these entities seek financial returns, they are primarily driven by economic development goals, such as stimulating local employment growth and enhancing fiscal revenues. This policy-aligned approach leads them to impose strategic mandates (for example, requiring companies to invest in designated regions or industries), which is reshaping the geography and priorities of the Chinese biotech industry.

Accelerating innovation in next-generation modalities

Asia-Pacific's growing innovation in advanced therapeutics and technology-driven platforms has captured the world's attention.

Investment in mRNA therapeutics, CGTs, and ADCs has grown rapidly in the Asia-Pacific region generally, and in Chinese biotechs in particular (see SystImmune's US$8.4 billion ADC codevelopment and licensing deal with Bristol-Myers Squibb). Meanwhile, emerging AI-enabled platforms are promising to streamline early-stage drug discovery. Insilico Medicine's Food and Drug Administration (FDA) investigational new drug (IND) approval for its AI-designed MAT2A inhibitor, followed by a US$110 million raise in 2025, points to the viability of these technology-led approaches in accelerating drug development. Jiangsu Hengrui Pharmaceuticals ("Hengrui"), in partnership with Iktos, is leveraging a proprietary AI-driven molecular design platform to accelerate hit-to-lead and lead optimization processes, enabling faster, more efficient, and more cost-effective development of innovative compounds.

Hengrui: Using AI to accelerate R&D

Jiangsu Hengrui Pharmaceuticals, a China-based global pharmaceutical company, has placed innovation at the core of its growth strategy. It has established an R&D center in Biopolis, Singapore, and its R&D capabilities span numerous advanced technology platforms, covering modalities such as proteolysis-targeting chimeras (PROTACs), ADCs, bispecific antibodies, and gamma-delta T-cells. A key addition to this ecosystem has been Hengrui's AI molecular design capability, developed through a combination of in-house innovation and strategic collaboration.

In 2021, the company partnered with Paris-based Iktos, marking Iktos' first collaboration in China. Through integration of Iktos' Makya platform—based on deep generative AI models—Hengrui is enhancing the speed and efficiency of early-stage discovery. Makya enables automated design of virtual molecules with optimal activity and drug-like properties, streamlining hit-to-lead and lead optimization processes.

China's dominance in these next-generation, high-value modalities is part of the reason it has received more than 75% of all biotech VC and PE flows into the region since 2019. Its strong pipeline includes Abogen, an mRNA therapeutics company, which raised over US$1 billion in PE/VC funding. Chinese companies are also benefiting from lucrative licensing agreements, as seen with LaNova Medicines, a clinical stage biotech, which received a US$600 million licensing agreement from AstraZeneca for a potential first-in-class ADC.

After two decades of strategic focus and concerted efforts to streamline regulatory processes, innovative programs like these have made China a global biotech standout with the potential to challenge—and even surpass—Western players in first-in-class assets over the next five years. The 2025 US National Security Commission on Emerging Biotechnology report cautioned that the US risked falling behind China in biotech leadership without additional federal investment.

Recently, there was a slowdown in biotech funding activities in China in the past few months. However, activities have since picked up again, perhaps due to escalating geopolitical tensions.

Strategic restructuring mitigates geopolitical risks

Chinese biotechs are increasingly adopting "NewCo" structures and offshoring IP strategies in response to geopolitical tensions.

China's rising tensions with the US have created uncertainty around cross-border collaborations and continued access to Western capital markets. In response, Chinese biotechs are adopting offshore "NewCo" structures and IP-splitting strategies to manage international risk. Hengrui's licensing of its GLP-1 portfolio to US-based Kailera Therapeutics (formerly Hercules CM NewCo) and Keymed Biosciences' formation of Belenos Biosciences with OrbiMed are examples of firms using foreign-domiciled entities to maintain investor confidence, safeguard IP, and preserve development optionality outside China.

Firms are also responding by shifting global headquarters and restructuring ownership. For example, Legend Biotech, known for its cell therapy platforms, is expanding its US operations and recently reduced GenScript's voting power, moves that coincide with rising US concerns over Chinese ties within the American biotech sector.

In the current environment, success will depend not only on scientific excellence but also on regulatory fluency, funding adaptability, and cross-border strategic positioning. Firms that can demonstrate late-stage readiness, align with government priorities, and diversify operations to mitigate geopolitical risk will be best positioned to lead the next chapter of biotech innovation in Asia.

Implications for global pharma companies

As global pharma companies rethink their R&D strategies in response to geopolitics, Asia-Pacific is emerging not just as a sourcing ground but as a core innovation engine—marked by rising licensing deals, growing R&D centers across the region, and increasing competition for high-quality assets.

For global pharma companies, embedding themselves in the Asia-Pacific innovation ecosystem is no longer optional—it is becoming a competitive necessity.

Asia-Pacific emerging as an R&D innovation hub for global pharma

Despite ongoing geopolitical tensions, China's development of globally competitive biotech assets makes it a critical innovation partner for global pharma. Since 2020, the number of high-value licensing deals between Western pharmaceutical companies and China—those exceeding US$50 million—increased nearly sixfold, signaling the growing dependence of global pharma companies on China's biotech ecosystem to drive innovation.

Tightening US research budgets—driven by proposed NIH cuts and limits on indirect cost reimbursements—are expected to constrain early-stage academic research and reduce grant availability, potentially slowing US-led innovation. As a result, Asia-Pacific markets are increasingly positioned to lead in early-stage research, with big pharma likely to turn more actively to the region for sourcing innovation. The potential for US-based scientific talent to migrate to more favorable regions could also create an opportunity for Asia-Pacific governments and institutions to strengthen their innovation bases.

This context has given global pharma companies good reasons to expand their R&D capabilities within Asia-Pacific, through setting up facilities or incubating companies. Both Pfizer and AstraZeneca have committed (multi)billion-dollar investments to building R&D facilities in China, and JLABS, Johnson & Johnson Innovation's network of incubators, has incubated 25 companies in Singapore through collaboration with EDB, and 107 in the Asia-Pacific region overall.

Hummingbird Bioscience: Evolving from Singapore biotech to a global player

Hummingbird Bioscience is a Singapore-based clinical-stage biotech founded in 2015, focused on precision biologics for oncology and autoimmune diseases. Its proprietary Rational Antibody Discovery platform enables antibody engineering against traditionally "undruggable" targets like human epidermal growth factor receptor 3 (HER3) and V-domain immunoglobin suppressor of T-cell activation (VISTA). It has raised over US$150 million across funding rounds, including a US$125 million Series C led by Novo Holdings.

With headquarters in Singapore and offices in the US, Hummingbird leverages Singapore for discovery and translational science, while its US presence supports clinical execution and investor access. The company's growth has been driven by high-impact partnerships: early research validation with Amgen; clinical programs with Merck; and licensing deals with Synaffix, Endeavor BioMedicines, and Immunome. In 2025, Hummingbird spun out its ADC platform into a new entity, Callio Therapeutics, which launched with US$187 million in Series A funding.

Leading venture builders and global life sciences investors—including Flagship Pioneering and MPM BioImpact—are following big pharma's lead and are looking at Asia-Pacific as a place to build next-generation biotech companies. These firms are actively exploring ways to tap into Asia-originated science, invest in local R&D, and leverage regional talent to create globally investable platforms. For venture-backed start-ups, this signals a growing confidence in the Asia-Pacific ecosystem not just as a market, but as a foundational base for innovation and company creation.

Navigating geopolitical pressures and policy uncertainty

While geopolitical tensions haven't slowed China's growth, policy uncertainty has prompted global pharma to diversify within Asia-Pacific, creating opportunities for firms outside China.

China's long-standing advantages in terms of cost efficiency and scale are now being tempered by geopolitical risk, which has been heightened by President Trump's initiatives to impose trade restrictions and tariffs on China. While that risk hasn't been enough, so far, to discourage global investment in China, it is creating opportunities for other Asia-Pacific nations like Singapore and South Korea to benefit from global players' interest in diversifying their investments within the region.

Within R&D, the impact is highest in the contract R&D/manufacturing sectors. Chinese CROs and CDMOs—long-standing partners to global pharma—are now under increased scrutiny because of the proposed US BIOSECURE Act, which flagged companies such as WuXi AppTec and BGI Genomics as potential threats to US national security.

Although the BIOSECURE Act has since stalled, many US pharmaceutical firms are beginning to rethink their reliance on Chinese CROs and CDMOs, shifting toward geographic diversification to reduce their exposure.

Implications for governments and public research institutions

Government-backed capital and ecosystem building in Asia-Pacific biotech

Public investment and policy strategies are driving early-stage biotech support, infrastructure development, and long-term ecosystem competitiveness.

Given the rising geopolitical uncertainty and VC pullback, government grants and public funding programs have become vital sources of early-stage capital, helping to mitigate investment risk, encourage private sector participation, and stabilize the Asia-Pacific biotech ecosystem.

South Korea's new US$23 billion strategic advanced industry fund, which provides affordable financing to biotech and other high-tech industries, is a good example of how public efforts can be used to crowd in private capital and reduce perceived risk in unproven technologies. Further, national plans such as China's 14th Five-Year Plan and India's Biotechnology for Economy, Environment, and Employment (BioE3) Policy demonstrate the public sector's long-term commitment to biotechnology as a strategic industry for the region. China's Five-Year Plan prioritizes the growth of key biotech subsectors, while India's BioE3 Policy focuses on fostering innovation in biotech start-ups and strengthening domestic biomanufacturing capacity. Such national frameworks across Asia-Pacific have guided the development of innovation hubs, talent pipelines, and regulatory infrastructure—all aimed at building globally competitive ecosystems.

Public research institutions are also playing a key role in advancing biotech innovation. For example, Japan's Agency for Medical Research and Development supports regional translational hubs that offer integrated services—ranging from lab space to regulatory guidance—to bring academic discoveries closer to the clinic.

In Singapore, investment in research, innovation, and enterprise is planned in five-year tranches, ensuring sustained and strategic development toward a future-ready economy. Public research institutes and domain-centric national platforms collaborate on initiatives to drive translational research, and Singapore's EDB has complemented these efforts. SG Growth Capital, through its investment arm EDB Investments (EDBI), has supported high-potential ventures like Hummingbird Bioscience. EDB's Healthcare Industry Group has also partnered with global companies on infrastructure-led investments, such as AstraZeneca's first-ever US$1.5 billion end-to-end ADC manufacturing facility and the JLABS Singapore-Johnson & Johnson collaborative initiative to source and cultivate early-stage life science innovation.

To further encourage healthcare companies to set up in Singapore, the government has launched individual talent visa programs such as ONE Pass and Tech.Pass to attract top talent like founders and technical experts from around the world, as well as a Tech@SG program targeted at fast-growing companies that helps them secure work passes for critical talent to scale their business. These initiatives reflect a broader national strategy aimed at encouraging biotech innovation, accelerating commercialization, and positioning Singapore as a globally competitive biopharma hub.

Chugai: Establishing Singapore as a key R&D hub

Chugai Pharmaceutical, a Japan-based pharma company and a member of the Roche group, established Chugai Pharmabody Research (CPR) in Singapore in 2012 to tap into the country's biomedical strengths and global connectivity. With over US$300 million invested and US$200 million more planned, CPR plays a key role in Chugai's global antibody discovery efforts.

For example, CPR had a leading role in the creation of the investigational antibody crovalimab for paroxysmal nocturnal hemoglobinuria, a potentially life-threatening blood disease. The drug was approved by NMPA, FDA, EMA, and other countries in 2024, making it the first globally approved drug originating from Singapore.

In January 2025, CPR advanced its collaboration with A*STAR and the National University of Singapore (NUS) on an anti-dengue antibody by entering a new development partnership with GSK. The initiative underscores Singapore's growing strength in end-to-end biologics innovation, from early discovery to value addition for strategic partners in subsequent global clinical development. Chugai continues to scale its innovation presence through partnerships, including a US$780 million ADC deal with Araris Biotech and strategic collaborations with Eli Lilly, Roche, and others.

Asia-Pacific is redefining biotech readiness through talent, policy, and regulatory edge

Asia-Pacific countries are positioning themselves as future-facing global biotech hubs through talent, regulatory agility, and policy innovation.

Singapore's Tech Pass and Tech@SG programs are being joined by many other "talent visa" initiatives throughout the Asia-Pacific region. South Korea's newly launched "Top-Tier Talent Visa" offers expedited residency, tax exemptions, and family benefits to scientists with advanced degrees from top global universities. Such programs not only strengthen domestic research capacity but also position Asia-Pacific countries as destinations for globally mobile life science talent.

Policy environments that protect IP and incentivize innovation are becoming key differentiators in attracting capital. Global venture capitalists, PE firms, and multinational pharmaceutical companies are increasingly looking to jurisdictions such as Japan and Singapore—both of which offer strong IP regimes and biotech-friendly tax structures.

Mirxes: From Singapore lab to global biotech leader

Mirxes, a Singapore-based RNA technology company, is pioneering precision health technologies to enable the early detection of diseases such as cancer. Founded in 2014, based on a mRNA detection platform developed at NUS and A*STAR Bioprocessing Technology Institute, Mirxes was later spun off and incubated at A*STAR.

In May 2025, Mirxes made history as the first Southeast Asian biotech firm to reach unicorn status on the Hong Kong Stock Exchange, with US$180 million in venture funding. Its flagship cancer screening product, GASTROClear, a non-invasive screening method for detecting gastric cancer, was co-developed in Singapore and recently completed a 9,000-strong clinical trial in China, and is now expected to ramp up operations across Asia-Pacific.

Governments across the region are also streamlining drug approval processes to enhance their competitiveness as R&D hubs. China's National Medical Products Administration now accepts global clinical trial data and adheres to a 60-working-day review timeline for IND applications, aligning its regulatory standards with global best practices. South Korea's Global Innovative Product on Fast Track program reduces the length of drug reviews to 75% of the usual review time, and Japan's Sakigake designation offers accelerated review and extended market exclusivity for breakthrough products.

Looking ahead, Asia-Pacific governments and research institutions have an opportunity to further entrench the region's global leadership in biotech. By doubling down on regulatory modernization, talent attraction, and public–private integration, Asia-Pacific's public sector can continue to drive biotech growth on an increasingly multipolar innovation playing field.

Unlocking the next phase of Singapore's global biotech potential

Singapore's strategic position in shifting global biotech

Singapore's commitment to innovation, political neutrality, IP protections, and regulatory environment make it an attractive base for global biotech firms looking for geopolitical realignment.

Singapore's journey in biomedical sciences began nearly three decades ago with a holistic strategy spanning infrastructure, talent, and private sector development. Some key milestones along this path include a National Science Scholarship program, earmarking S$500 million to provide Singaporeans with opportunities to pursue graduate and post-graduate training; EDB's establishment of Bio*One Capital to invest in 50 local and overseas companies; and the creation of Biopolis, a purpose-built hub developed by JTC and dedicated to biomedical sciences.

In 2009, the biopharmaceutical company MSD set up its Translational Medicine Research Centre (TMRC) in Biopolis. Today, MSD collaborates with academic and clinical researchers to identify and validate novel therapeutic targets and drug modalities. They also discover drug candidates and biomarkers to aid clinical proof-of-concept.

Singapore continues to position itself as a neutral, well-governed hub bridging East-West biotech priorities. Its political stability, strong IP protections, ability to conduct first-in-world regulatory evaluations, and work-sharing arrangements with comparable regulatory agencies (such as those of the FDA, European Medicines Agency (EMA), and UK Medicines and Healthcare products Regulatory Agency (MHRA) via Project Orbis and Access Consortium) make it an attractive base for companies navigating global healthcare markets.

Singapore offers a strategic location for R&D, regulatory compliance, and regional coordination and has become a preferred destination for companies and investors seeking continued access to international capital while mitigating geopolitical risk. Recent large-scale commitments, such as WuXi Biologics' US$1.4 billion investment into local R&D and manufacturing infrastructure, highlight Singapore's rising profile as a trusted hub for biotech expansion. The country's skilled talent pool and strong government support have created a pro-innovation environment. One such example is the development of a novel anti-dengue antibody between Chugai's Singapore-based subsidiary, Chugai Pharmabody Research (CPR), in partnership with A*STAR and the National University of Singapore (NUS).

All of these factors have established Singapore as an R&D hub within Asia-Pacific.

Strategic public investment, risk-reduction policies, and world-class infrastructure anchor a globally competitive biotech ecosystem.

Building a scalable innovation ecosystem

After decades of strategic planning and public investment, Singapore's biotech sector is flourishing through its ongoing Research, Innovation, and Enterprise (RIE) plan. For RIE2025 (2020–25), the government has allocated S$28 billion to support science and technology development, including biomedical R&D. The forthcoming RIE2030 plan (2026–2030) will sustain this level of commitment, with a focus on use of applied AI across key sectors, prioritizing the development of "bilingual" scientific talent—researchers with both AI and domain-specific expertise—and upgrading research infrastructure. These efforts will further strengthen Singapore's position as a stable, well-supported base for biotech R&D and innovation.

While intensifying efforts in translational research and commercialization, the Singapore government continues to look beyond the immediate horizon by funding early-stage research. This strategy enables public research institutes to effectively bridge demand and investment cycles, ensuring a sustainable pipeline of innovation.

To further deepen capital formation, Singapore expanded its Startup SG Equity program in 2024 with an additional S$440 million commitment, bringing total available co-investment capital to over S$1 billion. Administered by Enterprise Singapore and EDB, the initiative is designed to crowd in global VC by providing co-investment to support both early- and growth-stage deep tech and biotech ventures. One standout example is Flagship Pioneering—the venture creation firm behind Moderna—which launched its regional hub in Singapore and jointly committed up to S$100 million with A*STAR to advance biotech and healthtech innovation across Asia-Pacific.

Singapore also invested early in adjacent capabilities beyond therapeutics. Its support for Fluidigm led to the establishment of the first integrated fluidic circuit manufacturing hub in Singapore in 2005, which helped anchor high-value instrumentation and deepen precision hardware expertise in the life sciences. EDBI's collaboration with Lonza to establish biologics manufacturing facilities and US-based Chiron's creation of S*BIO to grow Singapore's oncology and biologics R&D also fall under this umbrella.

Infrastructure also plays a critical role in Singapore's biotech trajectory. The Biopolis hub, which started as the flagship development of the one-north innovation district, co-locates public research institutes, start-ups, and multinational corporations to support seamless research translation, with additional investment to refresh infrastructure into the greater one-north area. Singapore's expanding capacity in advanced modalities, such as cell and gene therapy (CGT), is supported by facilities like ACTRIS's 2,000-square-meter CGT R&D and manufacturing site and a growing base of CGT-focused start-ups. Incubators such as NSG BioLabs enable up-and-coming biotechs with a Biosafety Level 2 coworking lab and a facility with the infrastructure and services to support end-to-end needs. Fit-for-purpose facilities and land plots in Tuas Biomedical Park also support manufacturing.

Finally, talent is another strategic pillar of Singapore's biotech ecosystem. Initiatives such as SGInnovate's Helix Immersion Programme integrate research talent into commercial ventures. These efforts position Singapore as more than a regional R&D base but also a gateway to broader international markets, which adds to the appeal for global biotech companies.

Recommendations

Singapore's strategic investments to date, and the factors that position it well for future success, point to recommendations for each entity to ignite the next wave of breakthrough innovation.

For Asia-Pacific biotechs:

- Appeal to increasingly risk-averse investors by boosting operational efficiency and prioritizing less risky projects that offer clear market pathways.
- Stay abreast of current funding opportunities, policy developments, and changes in geopolitical relations both within the Asia-Pacific region and with Western trading partners.
- Mitigate risks and rising costs by locating research and manufacturing facilities in multiple countries within the region.

For global pharma companies:

- Invest in alternatives to the US, where tightening public research budgets, limits on indirect cost reimbursements, and stricter immigration policies may constrict research investment and talent.
- Maintain a strong presence in China, where streamlined regulatory policies, strategic infrastructure investments, and a skilled workforce have created an environment that is highly conducive to cutting-edge, cost-effective research.
- Invest in other Asia-Pacific nations with similar market strengths, such as Singapore and South Korea. Diversifying R&D sourcing options will allow firms to play in multiple global markets and mitigate risk and costs from escalating trade and security tensions.

For Asia-Pacific governments and public research institutions:

- Create innovation-friendly policy environments by enacting laws that protect IP and implementing regulations that are transparent and efficient, and integrate well with international regulatory environments.
- Fund early-stage research by incentivizing co-investment that supports early- and growth-stage biotech ventures and attracts additional private capital.
- Build co-located infrastructure that can lower expenditures for new market entrants.
- Attract transformational talent through strategic visa programs and relocation incentives.

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