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Taiwan's biotech gathers momentum

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Backed by coordinated efforts from both government and industry, Taiwan's biotechnology sector is expanding steadily, with revenues reaching approximately $23.3 billion in 2023. The industry is positioning itself as an important player in the global biotech value chain. But what will it take for Taiwan to grow into a $32 billion biotech economy? Let's find out.



Biomedicine is a key focus under Taiwan's '5+2' Innovative Industries Plan, with the government aiming to establish the country as a leading hub for biomedical research and development in the Asia-Pacific region. Taiwan has reaffirmed its commitment to biotechnology as a strategic industry for 2024 and 2025, introducing new legislation and increasing funding to support growth.

In August 2024, Premier Cho Jung-tai announced a comprehensive set of biotech policies. The country also approved the Regenerative Medicine Act and related product regulations, aimed at advancing the development of cutting-edge therapies. The government also increased its budget for 2025, allocating NT$146.6 billion (approximately $4.6 billion) for technology, marking a 14.9 per cent increase. The funding will support AI-driven medical research and development, as well as workforce training across the Education, Economic, and Science ministries.

Taiwan aims to replicate its semiconductor success in the biotech sector, and a key step in that direction was the launch of the Taiwan Bio-Manufacturing Corporation (TBMC) in May 2023. Modelled after Taiwan Semiconductor Manufacturing Company (TSMC), the government holds a 40 per cent stake in TBMC, underscoring its strategic importance. While biotech has long been identified as a priority sector for Taiwan, its capital-intensive nature and long development timelines have made sustained government and consortium support essential.

The experience during the COVID-19 pandemic, when Taiwan faced delays in accessing mRNA vaccines due to limited domestic production capacity, highlighted the need for a strong local biomanufacturing ecosystem. The ability to rapidly produce advanced biologics through Contract Development and Manufacturing Organisation (CDMO) services is now seen as central to national health security. TBMC, formed in collaboration with the Development Center for Biotechnology (DCB) and the Industrial Technology Research Institute (ITRI), focuses on advanced platforms such as viral vectors, cell therapies, and protein technologies. Equipped with technologies like Raman spectroscopy and automated cell culturing systems, TBMC is

positioning itself as Asia's first Pharma 4.0 CDMO. The goal is to deliver high-quality biologic medicines and secure Taiwan's place in the global biomanufacturing value chain.

As of 2022, 172 companies were officially recognised by the Ministry of Economic Affairs (MOEA) as biotech firms in Taiwan. Their work spans diverse areas, including gene therapy and vaccines for HIV and dengue. Several of these companies are also listed on international stock exchanges, reflecting Taiwan's expanding presence in the global biotech industry.

"Taiwan's biotech industry stands at the forefront of innovation in Asia, with strong government support, advanced infrastructure, and a growing international presence," said Dr Wallace Lin, Secretary General, Taiwan Bio Industry Organization (Taiwan BIO) and Vice Chair, International Council of Biotechnology Associations (ICBA).

Where Taiwan fits in the global biotech value chain

Taiwan's domestic biotech industry has grown leaps and bounds in recent years, but where does the country truly stand in the global biotech value chain?

"Taiwan plays an important role in the global biotech value chain. For example, there are many CDMO services focused on cell and gene therapies, and also those that are AI driven diagnostics and Bio-tools. It's pretty dynamic in Taiwan, allowing for impact to the global biotech value chain in terms of innovation and the IP generation. I would say that Taiwan is strong in innovation and manufacturing. Taiwan has already exported a significant amount of biotech products, including our own. We are well positioned as a leader in the entire biotech value chain in terms of export readiness," said **Dr Jung-Chi Liao, CEO of Syncell,** a life science tools company revolutionising proteome and biomarker discovery.

"Taiwan occupies a rising and strategically significant position in the global biotech value chain, particularly in the convergence of digital health, chronic disease management, and real-world data applications. While traditionally not a hub for large-molecule pharmaceutical innovation, Taiwan has carved out a competitive niche in scaling health technologies, piloting digital therapeutic models, and enabling rapid public-private collaboration," said **Ed Deng, Co-founder and CEO of Health2Sync** that provides a comprehensive health management platform, enabling patients to connect with family, friends, and care providers.

Taiwan's strategic focus on digital healthcare has been formally integrated into national industrial policy. This digital push aligns with Taiwan's broader momentum in biotech, as the country steadily strengthens its role in the global value chain. A growing number of Taiwan-developed products are gaining international regulatory approval. In March 2024, Formosa Pharmaceuticals received US FDA approval for APP13007, a nanotech-based eye drop and the first new ophthalmic steroid approved in over 15 years. In oncology, OBI Pharma secured FDA orphan-drug designation in August 2024 for its Trop2-targeting antibody-drug conjugate, OBI-992. Taiwan also marked a milestone with the world's first HLA-G targeted exosome therapy for cancer entering US clinical trials in June 2025.

"In addition to the global new drug development, Taiwan has a vibrant innovation ecosystem, with a strong pipeline in AI-driven healthcare, regenerative medicine, and precision medicine. Taiwanese companies and research institutes regularly showcase over 50 new technologies at major international conventions, reflecting a robust capacity for innovation and R&D. The country's focus on AI integration, synthetic biology, and advanced diagnostics has accelerated drug discovery and improved healthcare management," said Dr Lin.

He added, "In addition to the above-mentioned global new drugs and innovative medical devices with IP's, Taiwan's biotech sector benefits from solid intellectual property protection and enforcement, supported by transparent legal frameworks and government incentives. The country's clinical trial capabilities and translational research infrastructure facilitate the generation and protection of new IP, positioning Taiwan as a credible partner for global pharmaceutical development."

An increasing number of biotech companies are also entering international markets. For example, JelloX Biotech Inc., a Taiwan-based cancer pathology startup, recently announced plans to open a lab in the US. Bora Biologics, a CDMO, also expanded its manufacturing footprint in the US.

Taiwan is also expanding its regional biotech ties. It is exploring new collaborations with India in biotech and pharma. In Japan, Taiwan's BPIPO and DCB joined LINK-J and FIRM to host the first Regenerative Medicine Investment Forum in Tokyo. At AusBiotech 2024, Taiwan and Australia strengthened their partnership to advance biotech innovation across the region.

Role of biotech parks

Taiwan's biotech ecosystem includes key parks such as Ankang Biotechnology Park, Nankang Biotech Plaza, the National Biotechnology Research Park (NBRP), Hsinchu Science Park, Hsinchu Biomedical Science Park, Southern Taiwan Science Park, Taiwan Orchid Plantation, and Pingtung Agricultural Biotechnology Park. In 2023, Taipei Bioinnovation Park opened in Nangang with lab space, pilot production units, and an incubator for over 100 companies.

"Besides a supportive capital market in Taiwan to biotech sectors, the government policies, including biotech parks are key supporting factors. Biotech is a national strategic industry, supported by favorable laws such as the Biotech & New Drug Development Act. Recent regulatory amendments have improved the business and legal environment, laying the groundwork for sector growth," said Dr Lin.

These parks serve as innovation hubs, foster collaboration, accelerate R&D timelines, and attract leading foreign companies and research teams to Taiwan.

"Taiwan is very advanced in terms of the government investing in biotech startups. The government pushes many important policies with biotech as a key of the focus over the course of the last 15 years. Bioparks like National Biopark, Biotech Research Park, or Hsinchu Biomedical Park or Taipei Biopark are accelerators and incubators of innovation, driving the startup energy in Taiwan," said Liao.

He further added, "In terms of international collaboration, I think that many bioparks, especially MBRP, are helping catalyse this but there is more that can be done in terms of connecting with global experts and global venture capital sources."

Bridging the Gaps

By 2025, the country aims to develop 20 new drugs, bring 80 high-value medical devices to market, and grow its biomedicine industry into a trillion-NT-dollar sector, or around $32 billion.

While progress is visible, deeper integration with global biotech networks remains a key challenge. As Liao puts it, "The global connection between the biotech industry in Taiwan and the rest of the world is relatively weaker than in some other industries (like the semiconductor industry). I see that as a big opportunity for Taiwan— to better integrate with global markets, innovators. Many of the venture capitalists in other countries may not know the unique strengths of companies in Taiwan."

Access to capital and stronger corporate linkages are also areas that need attention. **Cole Wu, Co-Founder, Coherence Bio** observed, "Where Taiwan still lags is capital and deep corporate ties. Early-stage checks remain rare and thin, and strategic investment or M&A activity inside Taiwan is still the exception rather than the rule. Embedding multinationals earlier—e.g. via cross-border seed funds, year-round partnering circuits, and incentives for foreign CVCs—would give founders the oxygen and networks needed to turn fast prototypes into export-ready platforms." Coherence Bio accelerates AI-driven drug discovery with a programmable, modular benchtop automation system.

Attracting and retaining international talent especially in AI, advanced biologics etc. remains a priority. Building cross-disciplinary teams that are equipped for global engagement is essential.

"Rapid advances in mRNA, gene therapy, and AI diagnostics outpace existing regulatory frameworks. Updated, agile regulations and harmonization with global standards are expected to facilitate product approvals and market entry," said Dr Lin.

Talent development will also be critical in areas beyond research. As Liao pointed out, "Taiwan is strong in manufacturing, but perhaps there are still opportunities to develop the type of talent pharmaceutical and biotech companies need to thrive – particularly in global regulatory and business development functions – which are needed to connect with larger pharma companies or to enter new markets. Taiwan also does not have a very notable brand presence so it becomes even more important to build strong global sales and marketing teams."

Already halfway through 2025, Taiwan is making steady progress toward its biotech goals. By addressing talent, regulatory, and scale-related challenges, and deepening global partnerships, Taiwan is well-positioned to become a leading force in the global biotech value chain. This is crucial to reaching its target of one trillion NTD, or around $32 billion. Achieving this would not only mark a national milestone but also set a benchmark for other countries looking to strengthen their biotech sectors.

Top biotech companies in Taiwan

1. Oneness Biotech Co., Ltd.
2. Center Laboratories, Inc.
3. TaiMed Biologics Inc.
4. Medigen Vaccine Biologics Corporation
5. Microbio Co., Ltd.
6. Ever Supreme Bio Technology Co., Ltd.
7. ScinoPharm Taiwan, Ltd.
8. PharmaEngine, Inc.
9. OBI Pharma, Inc.
10. TaiGen Biopharmaceuticals Holdings Limited

(Source: StockViz)

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