Wallace Lin – Secretary-General, Taiwan Bio

Our mission is to connect science, technology, and care delivery to build a forward-looking healthcare ecosystem that improves lives both within Taiwan and beyond.

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With its thriving innovation ecosystem and growing global visibility, Taiwan is fast emerging as one of Asia's most dynamic biotechnology hubs. At the forefront of this transformation is Wallace Lin, Secretary-General of Taiwan Bio, who has spent his career bridging science, policy, and industry to strengthen the nation's life sciences landscape. In this interview, Lin reflects on the nation's five-decade biotech journey and the next phase of growth driven by the Healthy Taiwan Cultivation Plan.

What inspired your transition into Taiwan's biotech sector, and how would you describe Taiwan BIO's mission and priorities today?

After completing my graduate studies in the United States, I returned to Taiwan and was fortunate to build a career that spanned academia, entrepreneurship, and public service. I worked in universities and research institutes, co-founded a biotech venture, and later served as Science and Technology Advisor to the Minister of Economic Affairs, Acting Deputy Executive Director at the Center for Drug Evaluation (CDE), and Director for Biotechnology, Health, Medicine, and Agriculture at the Board of Science and Technology (BOST) under the Executive Yuan. These roles offered a broad perspective on how science, policy, and industry intersect in Taiwan's life sciences, an ecosystem that today encompasses pharmaceuticals, medical devices, applied biotechnology, contract research and manufacturing, welfare and care services, and increasingly, digital health, together generating around USD 24-25 billion in annual revenue.

Since 2021, I have served as Secretary-General of the Taiwan Bio Industry Organization, established in 1989 as the nation's first biotech association. Our role is to connect industry, academia, and government, and to foster an ecosystem where innovation can take root and expand globally. Taiwan BIO brings together companies from across the biotech spectrum – pharma, medtech, semiconductors, and precision machinery – alongside investors, professional service firms, and leading academic institutions. International partners such as Amgen, Celltrion, Fresenius Kabi, and Sandoz/Novartis, as well as law firms Baker McKenzie and Jones Day, illustrate the breadth of our network and Taiwan's integration into the global biotech community.

We also organise BIO Asia-Taiwan, co-hosted with the US-based Biotechnology Innovation Organisation (BIO), one of only three BIO-branded conferences worldwide, alongside BIO International Convention and BIO Europe. The 2025 edition drew nearly 140,000 visits and over 3,000 professional delegates, more than half at the C-suite level, representing 58 countries. It also hosted over 100 institutional investors and more than 8,000 partnering requests, reflecting its growing importance as a gateway for collaboration and investment.

Beyond the conference, we run the Taiwan BIO Academy, which provides over 300 hours of advanced industry training each year. These programmes promote the exchange of practical know-how in a pre-competitive setting, where even rival companies share experience to strengthen collective expertise. We also celebrate achievement through the BIO Asia Awards and Taiwan BIO Awards, presented during the opening ceremony of BIO Asia-Taiwan, often by the President of Taiwan. Winners are invited to share policy recommendations with senior officials, reinforcing our advisory role in shaping regulation and industry development. Through these efforts, and close collaboration with ministries such as the Ministry of Health and Welfare, the Ministry of Economic Affairs, and the National Science and Technology Council (NSTC), we continue to build bridges between innovation, governance, and global partnership, positioning Taiwan as a trusted and forward-looking biotech hub.

How has Taiwan's policy framework for biotech and pharma evolved over recent years, and which initiatives or regulations have had the most impact on the industry?

Taiwan's biotechnology development cannot be understood in isolation from its broader industrial transformation. The government placed biotechnology alongside semiconductors and information and communication technology (ICT) among its eight strategic priorities nearly half a century ago, laying the foundation for what would become a uniquely integrated innovation ecosystem. While

ICT and semiconductors were primarily export-oriented, biotechnology evolved to meet domestic healthcare needs, particularly public health and disease prevention. A defining milestone came in 1984, when Taiwan launched the world's first universal hepatitis B vaccination programme, dramatically reducing infection rates and liver-cancer incidence, a public-health success that shaped the nation's medical and industrial capabilities.

This long-term commitment built the framework for today's life sciences industry. Taiwan's National Health Insurance system – ranked first worldwide in the Numbeo Health Care Index for seven consecutive years – is supported by a strong manufacturing base that supplies around 70-80% of prescription medicines domestically. The Taiwan Food and Drug Administration (TFDA) joined the Pharmaceutical Inspection Co-operation Scheme (PIC/S) in 2013, ahead of Japan and Korea, aligning national Good Manufacturing Practice (GMP) standards with international norms. European regulators now often recognise TFDA inspections and waive repeats, reflecting the reliability and quality of Taiwan's production base.

Over time, these strengths have allowed the industry to move steadily from vaccines and generics to biosimilars and innovative drugs, with 15-20 therapies – including those developed by PharmaEngine and PharmaEssentia – approved by major global authorities such as the US FDA, EMA, and Japan's PMDA. The medical-device sector has followed a similar trajectory, building on a legacy of essential technologies to become a vital component of the broader healthcare and manufacturing value chain.

Today, this evolution is entering a new phase through the Healthy Taiwan Cultivation Plan (2025-2029), personally chaired by President Lai Ching-te. The initiative seeks to extend healthy life expectancy and lower cancer incidence by integrating biotechnology with ICT, semiconductors, and artificial intelligence. It marks a decisive shift from treatment to prevention, expanding healthcare beyond hospital settings into home care, telemedicine, digital health, and data-driven disease management. Regular presidential and inter-ministerial meetings ensure that government, healthcare institutions, and industry remain closely aligned in delivering this vision.

In essence, Taiwan's biotech journey reflects five decades of strategic continuity, evolving from public-health imperatives to a comprehensive innovation strategy that unites science, technology, and care delivery. The Healthy Taiwan initiative crystallises this maturity: transforming a manufacturing-based model into a forward-looking, preventive, and knowledge-driven healthcare ecosystem poised to improve lives both within Taiwan and beyond.

How do you see biotechnology's role within President Lai's "Five Trusted Industries" framework, given that it was not explicitly listed among the priorities?

The "Five Trusted Industries" should not be viewed as a replacement for biotechnology but as an expansion of Taiwan's strategic priorities. Every sector has its own growth trajectory, and biotechnology has already reached a stage of maturity where it forms part of the foundation supporting the nation's next phase of industrial evolution. It has moved beyond the nursery stage and now underpins the broader innovation ecosystem.

Introduced in President Lai's 2024 inaugural address, the "Five Trusted Industries" were conceived to strengthen Taiwan's economic resilience amid a shifting geopolitical landscape. They include areas such as semiconductors, cybersecurity, and defence-related technologies, domains that address pressing national and strategic needs. However, this emphasis does not diminish biotechnology's significance; it reflects a deliberate focus on building new capacities atop well-established strengths.

Biotech and healthcare remain core pillars of Taiwan's industrial and social policy, continuing to benefit from substantial government support through science and technology budgets, innovation funding, and access to capital markets. In his May 20, 2024, address, President Lai reaffirmed that these sectors remain central to Taiwan's long-term development and to improving citizens' quality of life. In that sense, the "Five Trusted Industries" represent continuity rather than change. They are additive, not exclusive, and designed to reinforce national resilience by layering new priorities on an already solid foundation. Biotechnology, far from being sidelined, remains integral to Taiwan's identity as an innovation-driven economy and continues to anchor its pursuit of sustainable growth.

Where does Taiwan's biotech industry show the greatest potential in R&D and innovation, and which therapeutic areas or modalities are most promising?

In biotechnology, focus is rarely prescribed from the top down; it emerges from the specific strengths and capabilities of individual players. Taiwan's ecosystem mirrors this global reality, being primarily driven by small and medium-sized enterprises (SMEs) that thrive on agility and niche expertise. These firms form the backbone of innovation; globally, nearly two-thirds of new drugs approved by the US FDA, as well as a comparable share of clinical trials listed on ClinicalTrials.gov, originate from SMEs. Their progress is guided less by scale and more by creativity, precision, and adaptability.

The government, meanwhile, plays an enabling role, identifying unmet medical needs and supporting early-stage research through initiatives led by the NSTC. Current priorities include oncology, regenerative medicine, and cell and gene therapies, areas that align both with global demand and Taiwan's scientific capabilities.

Taiwan's strength lies in its ability to differentiate rather than follow crowded trends. While countries like Korea have focused on large-scale biologics production, Taiwan has built a strong reputation for specialised CDMO services and high-quality small-molecule and active pharmaceutical ingredient (API) manufacturing. During the COVID-19 pandemic, for example, local producers supplied critical APIs such as chloroquine, quietly sustaining global supply chains with reliability and technical excellence.

This industrial maturity has been matched by regulatory foresight. Taiwan is one of only two countries, alongside Japan, to have enacted a dedicated cell and gene therapy framework, comprising the Regenerative Medicine Act and the Regenerative Medicine Product Act, both passed in 2023, to provide a clear, evidence-based pathway for advanced therapies. Furthermore, biotechnology remains the only sector governed by its own statute – the Statute for the Development of the Biotech and Pharmaceutical Industry – which supports innovation across new drugs, medical devices, and regenerative treatments while strengthening the country's CDMO ecosystem.

Taiwan's legal and regulatory architecture now rivals global standards. Its patent linkage system, extended beyond small molecules to include biologics, places it among a select group of nations – alongside the United States, Canada, and South Korea – offering this level of intellectual property protection. By combining scientific capability, a supportive policy environment, and an agile industrial base, Taiwan has cultivated a distinctive competitive edge: an innovation ecosystem defined not by size but by precision, quality, and global reliability.

How is geopolitics influencing Taiwan's biotech strategy and global partnerships?

Geopolitics has become a defining factor in shaping industrial strategies worldwide, and Taiwan – situated between China and the United States – finds itself at the centre of this reconfiguration. The world remains deeply interconnected, yet the lines of cooperation are being recalibrated as nations reassess their dependencies and seek to strengthen resilience. This shift, while complex, is creating both challenges and opportunities for Taiwan's biotech sector.

China remains a dominant force in API manufacturing and preclinical and CDMO services, with companies like WuXi AppTec serving as global leaders. However, as Western economies move to diversify supply chains and reduce overreliance on China, Taiwan’s long-standing reputation for quality, transparency, and reliability positions it as a trusted alternative.

Across the global biotech landscape, SMEs account for nearly two-thirds of innovation yet typically lack in-house manufacturing capacity. This is where Taiwan’s advantage lies. Its ecosystem of API producers and specialised CDMOs has earned international recognition for technical excellence, adaptability, and consistent performance. During past global disruptions, Taiwanese firms quietly sustained critical supply chains, demonstrating both capability and credibility.

To build on this momentum, Taiwan BIO established the Taiwan CDMO Alliance, uniting local service providers and strengthening their collective visibility to international partners. These companies differentiate themselves not through cost competitiveness but through agility, precision, and enduring partnership values, reflecting a culture of trust that dates back to the 1970s.

While Taiwanese CDMOs may not match the scale of global players such as Lonza, Catalent, or Samsung Biologics, many are publicly listed, globally inspected, and have maintained strong compliance records for decades. As geopolitical realignments continue, Taiwan’s blend of reliability, quality, and collaborative ethos ensures it remains a stable and strategic partner within the global biotech value chain.

How would you describe recent trends in fundraising and IPO activity within Taiwan’s biotech sector?

Taiwan’s biotech capital markets have shown impressive resilience and vitality, even through periods of global uncertainty. During the COVID-19 years, investor confidence remained strong, reflected in solid valuations, healthy price-to-earnings ratios, and a steady pace of IPOs. On both the Taiwan Stock Exchange and the Taipei Exchange, biotech listings continue to represent one of the most active and strategic pipelines, particularly when compared with more cautious market conditions in Europe and the United States.

This sustained momentum underscores not only the sector’s maturity but also Taiwan’s growing reputation as a stable and innovation-oriented investment environment, where scientific progress and financial performance continue to advance in parallel.

Looking ahead to 2030 and beyond, what is your vision for Taiwan BIO and the broader biotech ecosystem?

Our long-term vision is to build a dynamic and internationally connected biotech ecosystem, one that continues to grow within Taiwan while also extending its reach abroad. Together with our members and partners, we aim to strengthen Taiwan's position as a hub for scientific innovation, investment, and collaboration across Asia and beyond.

Since the inaugural BIO Asia-Taiwan in 2019, the event has evolved into one of the most influential gatherings for the region's life sciences community. It is one of only three BIO-branded conventions worldwide, and the only one in Asia authorised to use the BIO name. Over the years, it has expanded from a single-track conference to a comprehensive programme spanning innovation and technology, investment, and regional cooperation. The four-day core event, surrounded by exhibitions and partnering sessions, attracts around 140,000 participants, with related activities extending over nearly two weeks, fostering ongoing engagement across the ecosystem.

Our focus for the coming editions, already confirmed for 2026 and 2027, is to further elevate BIO Asia-Taiwan as a global platform for dialogue, investment, and partnership, connecting Taiwan's expertise with leading international players. In parallel, we continue to expand initiatives such as the Taiwan BIO Academy, which provides more than 300 hours of professional training each year to nurture industry talent and encourage knowledge sharing. This reflects the nature of biotechnology as a science- and technology-driven field that demands continual learning and collaboration.

Looking forward, we expect healthcare to move increasingly beyond hospitals toward preventive care, health promotion, and home-based services, aligning with the government's Healthy Taiwan initiative. Our goal is to help the industry adapt to this transformation, bridging science and technology with evolving healthcare models to ensure sustainable growth and meaningful impact on public health.

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