



經濟部

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生技產業白皮書

Biotechnology Industry in Taiwan



經濟部
產業發展署

Industrial Development Administration, MOEA

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序

生技產業係為滿足民眾對健康長壽、樂活宜居的追求，提供各項產品或服務，從預防、保健、醫療及照護等個人需求，延伸至社會防疫、綠色能源及生態復育等居住環境的安全與維護，打造全齡健康與淨零碳排的永續發展社會。

全球先進科技發展，帶動技術創新與跨領域合作，加速醫藥與保健產品的開發，而數位化與人工智慧(AI)的導入，串聯各種健康與醫療數據，有助個人化健康預防、保健養生等科技產品開發應用，並帶動醫療技術提升，促進精準醫療、數位醫療及再生醫療等新興生醫產業發展，開創新市場商機。

經濟部為維持產業競爭優勢，強化供應鏈韌性，推動 AI 晶片產業鏈全球聯盟，落實「境外關內、境內關外」策略，支持中小微企業數位與淨零雙軸轉型及提升能資源供應彈性，加速產業 AI 轉型。同時，在生技產業推動上，除加速醫藥品開發外，也引領健康養生商機，帶動大健康產業，提升臺灣產業國際市場競爭力，

經濟部運用「生技醫藥產業發展條例」推動創新醫藥品與先進醫療技術的開發，迄今，已有 226 家廠商審定為生技醫藥公司，生技醫藥品項達 586 項。亦經由「A+企業創新研發淬鍊計畫」及「產業升級創新平台輔導計畫」等研發補助計畫，協助企業提升研發能力，同時活絡產業投資，推動產品國內外

上市，並深化與跨國企業的合作。另外，推動 AI、ICT 與醫療跨域整合，打造健康科技創新平台，讓臺灣從製造角色邁向全球健康產業創新的推進器。亦鼓勵業者以製程改善、能源轉換、循環經濟等面向減碳，創造產業低碳轉型競爭力。

2024 年我國生技產業營業額達到新臺幣(以下同)7,754 億元，較 2023 年成長 2.32%；民間生技投資額達 551.48 億元。行政院國家發展基金截至 2024 年底，累計投資生技公司共計 222 家，投資總金額為 325.31 億元；2024 年底上市上櫃之生技公司達 147 家，整體市值超過 1.47 兆元。

未來將依循「國家希望工程」施政藍圖，持續推動各項生技政策，如布局健康數據應用服務、導入新興或跨域科技、建置重要原物料開發及產線、優選利基產品行銷國際等策略，帶動產業創新，導引關鍵應用系統國產化，使臺灣成為「人工智慧島」；並打造永續且韌性的生醫生態系，進一步增進國人健康福祉，實現「健康臺灣」國政願景。

經濟部部長



謹誌

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摘要

生技產業致力於增進人類健康福祉，透過醫藥品、保健營養食品、具營養價值農產品、生技特化品、生質能源、環境除汙/淨化等生技產品與服務的提供，為個人、社區至生態所構成之生活圈打造友善的優質環境；同時也促進經濟發展及滿足全齡在醫療與保健的需求，並針對全球傳染性疾病進行監控及預防。另外，運用可再生資源降低對石化原料的使用並增加綠色能源的供應，降低碳排放，期打造全齡健康與淨零碳排的永續發展社會。

全球生技產業隨科技創新及跨領域技術的導入應用，如基因編輯、核酸技術、抗體技術等，加速嵌合抗原受體重組 T 細胞(CAR-T)、抗體藥物複合體(ADC)等產品的開發，以及數位、AI 技術及巨量數據的導入，不僅為疾病治療提供新策略，更向前延伸到疾病預防與預測，建構個人化的精準醫療與國家科技防疫。

生技產業發展涉及層面廣泛，從經濟層面，包含研發、生產製造到上市及市場行銷等企業運作，需面對技術開發與移轉、人力資源、資金挹注、新創育成、產業聚落及國際推廣等；就醫療保健層面，需符合法規、臨床/田間試驗的要求，以保障生技產品的安全性與有效性。為促進我國生技產業的發展，政府核定多項產業政策方案及制定前瞻法規，如臺灣精準健康方案、高齡科技產業行動計畫等推動方案，透過部會分工，共同研擬各項產業推動措施，同時運用投資獎勵措施及產業輔導等政策工具，鼓勵學研機構投入前瞻技術的開發與應用或強化企業的創新研發能量，並建立多元募資管道，挹注產業所需資金，另亦積極提升我國生技產業的國際知名度、增加產業價值或創造產業效益，加速產業成長。

我國生技產業在各項生技政策的推動下，逐步建構完善的生態系，將研發能量落實於產業應用，催生眾多新創生技公司，接續產品商業化的推動。隨著人才、資金、法規、育成等措施持續推行，並接軌國際，推動產業國際化，促進國內生技醫藥產品於國內外上市，進一步擴大生技產業的規模。而「科學技術基本法」、「生技醫藥產業發展條例」、「再生醫療法」及「再生醫療製劑條例」等法規的制定或修訂，更有助於先進醫療技術的推動與落實商業應用。

隨著我國生技產業持續開拓國內外市場，也帶動營業額的成長。2024 年我國生技產業營業額達到新臺幣 7,754 億元，較 2023 年成長 2.32%；民間生技投資額亦達新臺幣 551.48 億元，維持 2023 年的規模。截至 2024 年底，行政院國家發展基金投資生技公司共計 222 家，投資總金額為新臺幣 325.31 億元；2024 年底上市上櫃之生技公司達 147 家，整體市值超過新臺幣 1.47 兆元。

「生技醫藥產業發展條例」自 2007 年 7 月 4 日發布施行以來，歷經 2 次修正，將施行期限延長至 2031 年底，同時適用範圍擴大涵蓋新藥及新劑型製劑、高風險醫療器材、再生醫療、精準醫療、數位醫療及專用於生技醫藥產業之創新技術平台，同時也將受託開發製造(CDMO)納入適用對象。截至 2025 年 6 月，共計有 226 家公司及 586 項產品通過「生技醫藥產業發展條例」之生技醫藥公司與生技醫藥品項的資格審定，其中已有 95 項產品於國內外上市，對我國生技產業營業額的貢獻也逐年增長，期待隨著研發中的品項陸續獲准上市，將有助於生技醫藥產業規模的擴大。

未來將依循「國家希望工程」施政藍圖，持續推動生技政策，透過法規/技術輔導、產業人才培育/延攬、資金/資源挹注等完善生醫發展生態系；建置接軌國際及標準化之醫療資訊系統，布局健康數據應用服務，提升運用價值；導入新興或跨域科技，加速藥品/醫材開發，並滿足家戶需求，帶動普惠科技發展；投入關鍵技術、原物料開發及生產線建置，以建立國內醫藥供應鏈自主性；優選利基產品行銷國際，推升臺灣品牌，開發全球多元市場。希冀以政策導引帶動產業創新，運用智慧科技回應在生醫及健康領域的社會及產業發展需求，推動關鍵應用系統國產化，建立主權 AI，使臺灣成為「人工智慧島」；並結合國內優質的生技、醫療人才，打造永續且韌性的生醫生態系，並進一步增進國人健康福祉，實現「健康臺灣」國政願景。

本年度生技產業白皮書內容分為六大部分，第一部分前言，第二為生技產業發展概況，第三為我國生技產業政策規劃與執行、第四為生技產業發展關鍵、第五為我國生技產業未來推動重點與展望，第六為專題。本年度專題為「我國在宅醫療的發展規劃」，係因應我國步入超高齡社會，為健全高齡社會的需求，透過專題研析，期能促進醫療院所與社區照護的鏈結，成為高齡社會發展的輔助力量，完善我國在宅醫療的發展，並為全齡照護提供完整的保障。

Abstract

The biotechnology industry is committed to enhancing human health and wellbeing. The industry provides biotechnological products and services such as pharmaceuticals, health and nutritional supplements, agricultural products, biotech specialty chemicals, biomass energy, and environmental decontamination and purification solutions; creates friendly, high-quality living environments for individuals, communities, and ecosystems; promotes economic development; meets the medical and health-care needs of people of all ages; and monitors and prevents infectious diseases worldwide. Moreover, the industry's use of renewable resources helps reduce reliance on petrochemical materials and increases the supply of green energy, thereby lowering carbon emissions and building a sustainable society characterized by lifelong health and net-zero carbon emissions.

Following the introduction and application of technological innovations and cross-disciplinary technologies—such as gene editing, nucleic acid technology, and antibody technology—the biotechnology industry has accelerated the development of products such as chimeric antigen receptor T (CAR-T)-cells and antibody-drug conjugates (ADCs). Also, the introduction of digital technology, artificial intelligence, and big data not only provides new strategies for disease treatment but also advances into the realms of disease prevention and prediction, thereby laying the foundation for personalized precision medicine and technology-based national pandemic prevention.

The development of the biotechnology industry encompasses a broad range of areas. From an economic perspective, development involves enterprise operations such as research and development, manufacturing, product launches, and marketing and must consider aspects such as technology development and transfer, human resource management, capital investment, startup incubation, industry clustering, and international promotion. From a health-care

perspective, development must comply with laws and regulations and meet clinical trial requirements to ensure safety and efficacy. To promote the development of Taiwan's biotechnology industry, the government has approved a range of industrial programs and enacted forward-looking regulations such as the Taiwan Precision Health Program and the Action Plan for Older Adult-Related Technology Industry. Through intergovernmental department collaboration, diverse industrial promotion measures can be devised and implemented. Additionally, policy tools such as investment incentives and industry counseling are employed to encourage research institutions to engage in the development and application of cutting-edge technology, strengthen enterprises' innovation and research and development capabilities, and build diverse fundraising channels to provide necessary funding for the industry. Efforts are also being made to raise the international visibility of Taiwan's biotechnology industry and elevate its value and benefits, thereby accelerating its growth.

Under the promotion of various biotechnology policies, Taiwan's biotechnology industry has gradually established a comprehensive ecosystem that translates research and development capacity into industrial application, giving rise to numerous biotech startups and driving product commercialization. With the continued implementation of measures such as talent cultivation, capital investment, regulations, incubation, and alignment with international standards, the industry is advancing toward globalization, facilitating the domestic and international launch of Taiwan's biotech and pharmaceutical products and increasing the scope of the industry. Furthermore, laws and regulations such as the Fundamental Science and Technology Act, Act for the Development of Biotech and Pharmaceutical Industry, Regenerative Medicine Act, and Regenerative Medicinal Products Act further support the advancement and commercial application of cutting-edge medical care technology.

Revenues are increasing as Taiwan's biotechnology industry expands both domestically and internationally. In 2024, the industry's revenue reached NT\$775.4 billion, which was an increase of 2.32% compared with the previous year. Private investment in biotechnology amounted to NT\$55.148 billion, maintaining the scale achieved in 2023. As of the end of 2024, the National Development Fund of the Executive Yuan had invested in a total of 222 biotech companies, with a cumulative investment of NT\$32.531 billion. Also, as of the end of 2024, 147 listed and over-the-counter biotech companies existed in Taiwan, boasting a combined market value exceeding NT\$1.47 trillion.

The Act for the Development of Biotech and Pharmaceutical Industry was promulgated and implemented on July 4, 2007. Since then, this act has been amended twice, and its enforcement period has been extended to the end of 2031. Its scope of application has been expanded to include new drugs, new pharmaceutical preparations, high-risk medical devices, regenerative medicine, precision medicine, digital health care, and innovative technology platforms dedicated to the biotech and pharmaceutical industry. Contract development and manufacturing organizations (CDMOs) have also been included as eligible entities. As of June 2025, 226 companies and 586 products have passed qualification reviews under the Act as biotech and pharmaceutical companies and biotech and pharmaceutical products, respectively. Among them, 95 products have been launched domestically and internationally, contributing increasingly to the industry's annual revenue. With more products under development being expected to be launched upon approval, the scope of Taiwan's biotech and pharmaceutical industry is anticipated to continue expanding.

In the future, following the policy blueprint of the "National Project of Hope," Taiwan will continue to implement its

biotechnology policies, providing regulatory and technical counseling, industry talent cultivation and recruitment, and capital investment to improve the biomedical ecosystem; build standardized medical information systems aligned with international standards and lay the groundwork for health data application services to elevate related application value; introduce emerging and cross-disciplinary technology to accelerate drug and medical device development while meeting household needs, thereby driving the development of inclusive technology; implement critical technology and raw material development and building production lines to establish autonomy in the domestic pharmaceutical supply chain; and promote excellent niche products in global

markets to strengthen Taiwanese brands and venture into diverse international markets. Through policy-driven innovation, Taiwan seeks to use smart technology in the biomedical and health sectors, responding to societal and industrial needs; promote the domestic production of key application systems to establish sovereign artificial intelligence, positioning Taiwan as an “Artificial Intelligence Island”; and integrate Taiwan’s high-quality biotech and medical talent to build a sustainable, resilient biomedical ecosystem, enhancing the health and wellbeing of Taiwanese citizens and realizing the national vision of a “Healthy Taiwan.”

This year’s Biotechnology Industry in Taiwan is divided into six sections: the introduction; industry developments; policy planning and implementation; key industry development factors; future priorities and an outlook on industry development; and a special topic. The special topic for this year is “Development Planning of Home-Based Health Care in Taiwan.” The topic responds to Taiwan’s transition into a super-aged society and aims to address the needs of an aging population. In-depth special topic analyses are conducted to strengthen the linkage between medical institutions and community care,

becoming a force supporting the development of an aged society. These efforts seek to enhance developments in home-based medical care and provide comprehensive care for people of all ages.