



2023

Introduction to
Biotechnology and
Pharmaceutical Industries
in Taiwan (R.O.C.)

臺灣

TAIWAN

TAIWAN, Your Best Partner in Asia

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PREFACE

The world has entered the post-pandemic era, stimulating the unlimited imagination of the biomedical industry. The integration of digitization and AI, together with the cross-sector technology, have led to the development of more timely and humane products, and created higher production value and output, which are also the trends of Taiwan's future development. The biomedical industry is one of the key industries that the government has been actively promoting for a long period of time, and is listed in the Innovation Industries Program and the Program for Promoting Six Core Strategic Industries- Taiwan Precision Health Industry, realizing the five major strategies of improving the bio-data integration platforms, developing biomedical cross-sector industry technology, optimizing the industry environment, integrating and linking the park clusters, and strengthening the international links, with the aim of building the health brand of Taiwan, marketing products and exporting services internationally towards the visions of an all-age health and smart nation by 2030.



In order to support the development of the domestic biomedical industry, the Industrial Development Bureau completed the amendment of the Act for the Development of Biotechnology and Pharmaceutical Industries at the end of 2021, not only incorporating emerging projects such as New Dosage Forms, Digital Medicine and Innovative Technology Platforms, but also integrating the advantages of domestic medical technology and information and communication technology, so as to produce biotech and pharmaceutical products that can be more accurately used for treatment, diagnosis, prevention and prediction. The addition of Contract Development and Manufacturing Organization (CDMO) companies will be conducive to strengthening domestic biotech and pharmaceuticals manufacturing capacity and enlarging the size of the industry. As of the end of October,

2022, 172 companies have been certified as biotech companies, and 453 items have been approved, of which 72 products have been approved for marketing both domestically and internationally. Through the government's multiple rent and tax incentive measures, including tax credits for R&D expenditure, tax credits for corporate shareholder investment, new purchase of brand new machinery, equipment or systems, increased individual shareholders, enhanced talent retention and recruitment and other incentives, more companies are being attracted to invest in biotech product development, leading the biotech and pharmaceuticals industry towards a new era.

The pandemic has accelerated the domestic development and manufacturing of biomedical products, and the revenue of the biomedical industry has grown by 10.9%, reaching a record high in 2021 of NTD 666.5 billion over the past decade. As of December of 2021, 128 biomedical companies were listed in the stock market or in the OTC (over the counter) market, 78 in the emerging stock market, and 20 in GISA (the Go Incubation Board for Startup Acceleration Firms).

We hope to make good use of the existing advantages of the information and communication industry, medical technology and data to accelerate the integration and innovation of technology and the integrated application of medical data to drive the growth of the precision health industry as well as make Taiwan the best partner in global biomedical innovation.

A background image showing a hand holding a magnifying glass over a complex chemical structure, possibly a protein or a complex molecule, with various atoms and bonds visible. The image is in a light, semi-transparent style.

Ching-Chang Lien

Director General
Industrial Development Bureau, MOEA
October, 2022

KEY FIGURES AT A GLANCE



The tea research and extension station located in Nantou County is a fabulous spot to enjoy the sunrise and Sun Moon Lake.

Photo by Tourism Bureau, Ministry of Transportation and Communication



Asia-Pacific Hub

Taiwan serves as an Asia-Pacific transportation hub connecting Northeast and Southeast Asia. Its first-rate international airports enable convenient travel averaging only 2.55 hours from Taipei to major western Pacific cities (Tokyo, Seoul, Shanghai, Hong Kong, Bangkok, Kuala Lumpur and Manila), and the world-class Kaohsiung Port facilitates goods shipment averaging only 53 hours to five major regional ports (Manila, Singapore, Hong Kong, Shanghai and Tokyo).

Taiwan not only forms a crucial link for Europe, America and Japan with the emerging Asia-Pacific market, it is also a preferred location for multinationals to establish their regional headquarters.

Taiwan at a Glance

Taiwan is at the southernmost tip of Northeast Asia. It is in the center of the East Asian island arc and on the western edge of the Pacific Ocean, with Japan and the Ryukyu Islands to the north, and the Philippines to the south. Taiwan is not only a crucial Asia-Pacific trade and logistics hub but also a major strategic base. Across its 36,197 km² are diverse natural elements, rich cultures and pleasant climates.



Stable Political System

Taiwan is currently a member of several international economic organizations, including the World Trade Organization, the Asia-Pacific Economic Cooperation group and the Asian Development Bank. Taiwan also engages in regular trade and exchanges with over 140 countries worldwide. As the global economy becomes more liberal and develops more rapidly, Taiwan continues to adjust its industrial development strategies such as easing regulations, removing investment restrictions, and reinforcing intellectual property measures to be in line with international trends.

Major Economic Indicators, Taiwan 2021



GDP

USD 774.94 Billion

GDP Per Capita

USD 33,011

Economic Growth

6.57%

Foreign Exchange Reserves

USD 548.85 Billion (May, 2022)



Export Value

USD 446.38 Billion

Import Value

USD 381.49 Billion



Unemployment

3.95%

Labor Participation Rate

59.02%



Photo by Tourism Bureau, Ministry of Transportation and Communication

Global Competitiveness Rankings- Let the World See Us

Taiwan offers exceptional business conditions, and its investment and living environment are highly valued by international institutions.



1st

The Best Healthcare System
Numbeo, 2022



2nd

Profit Opportunity Recommendation in Asia
BERI, 2021



3rd

The Best Destination for Expatriates
The Expat Insider of InterNations, 2022



6th
(3rd in Asia)

Index of Economic Freedom
Heritage Foundation, US, 2022



7th
(3rd in Asia)

World Competitiveness Ranking
World Competitiveness Yearbook, IMD, 2022



THE BIOMEDICAL INDUSTRY IN TAIWAN



State Policy Fully Supports Fostering R&D and Innovation

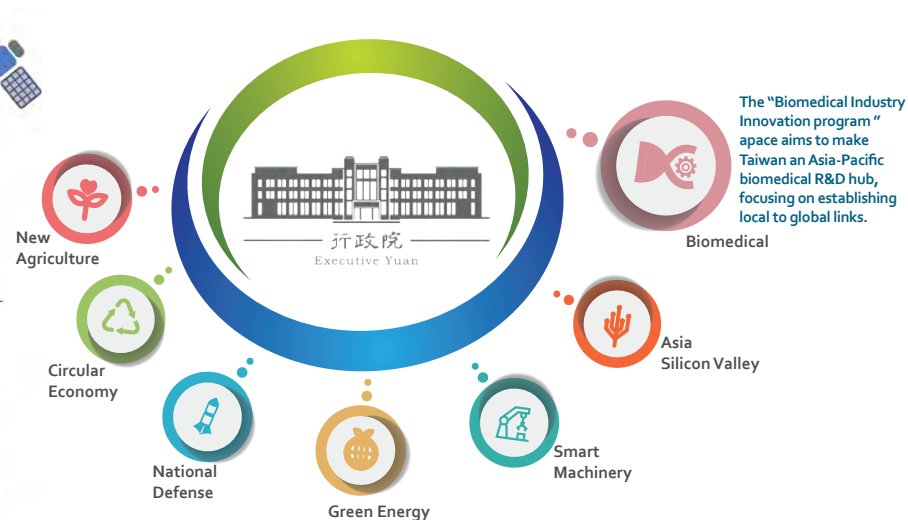
The promotion of Six Core Strategic Industries was announced by President Tsai in her inaugural address on May 20, 2020. These industries include the information and digital industries, cybersecurity industry, precision health industry, green and renewable energy industry, national defense and strategic industries and strategic stockpile industries. By moving early with preparations and building on the foundations of the Innovative Industries Program, Taiwan will gain the first-mover advantage to capitalize on opportunities in the post-pandemic era of reshuffling global supply chains.

For the precision health industry, a platform that integrates materials of the Taiwan Biobank and National Health Insurance Research Database will be established; systems of precision prevention, diagnosis, treatment and care will be built; precision epidemic prevention products will be developed, and international biomedical business opportunities will be explored.

Six Core Strategic Industries



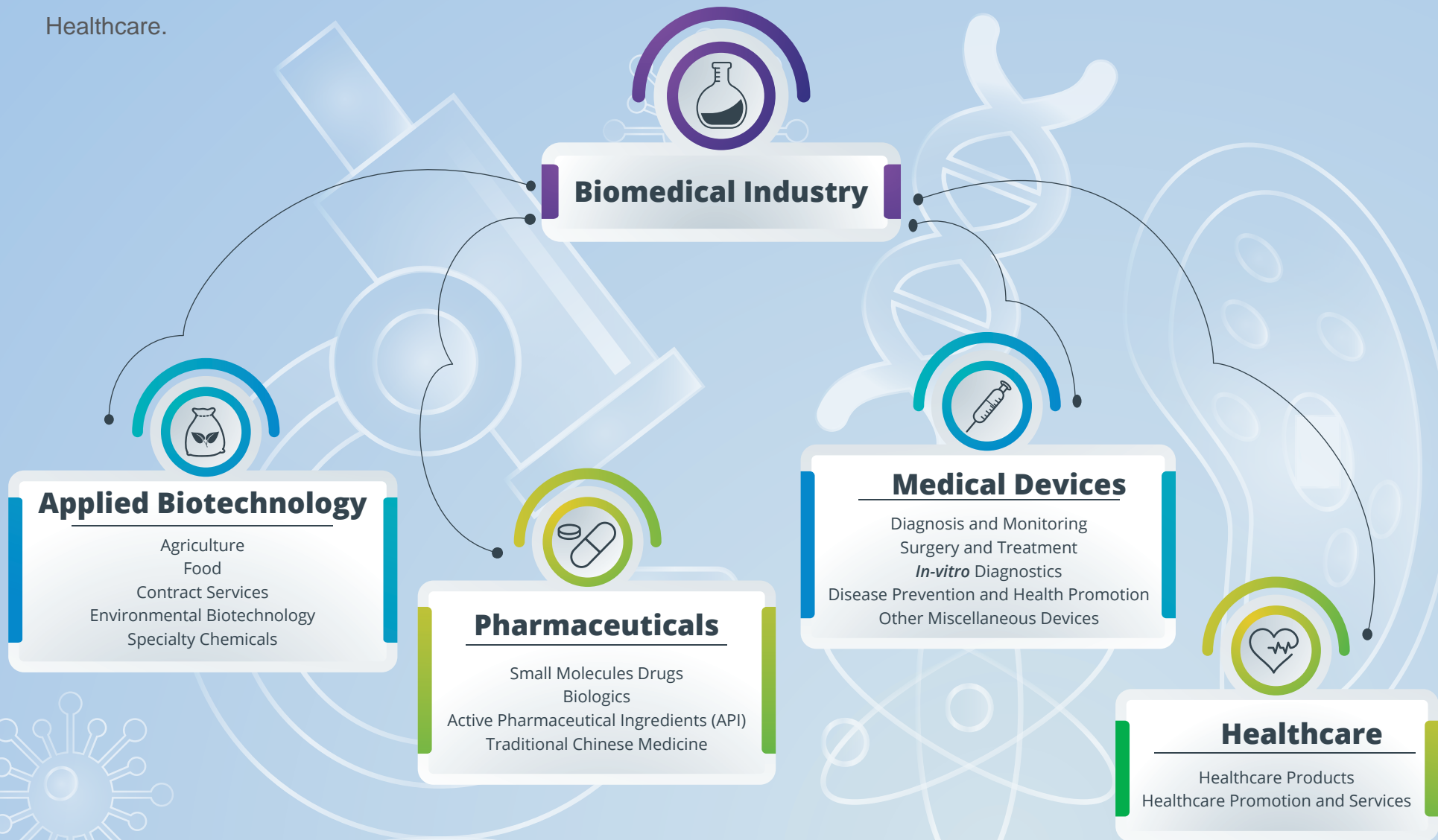
Highlighted Innovative Industries Program



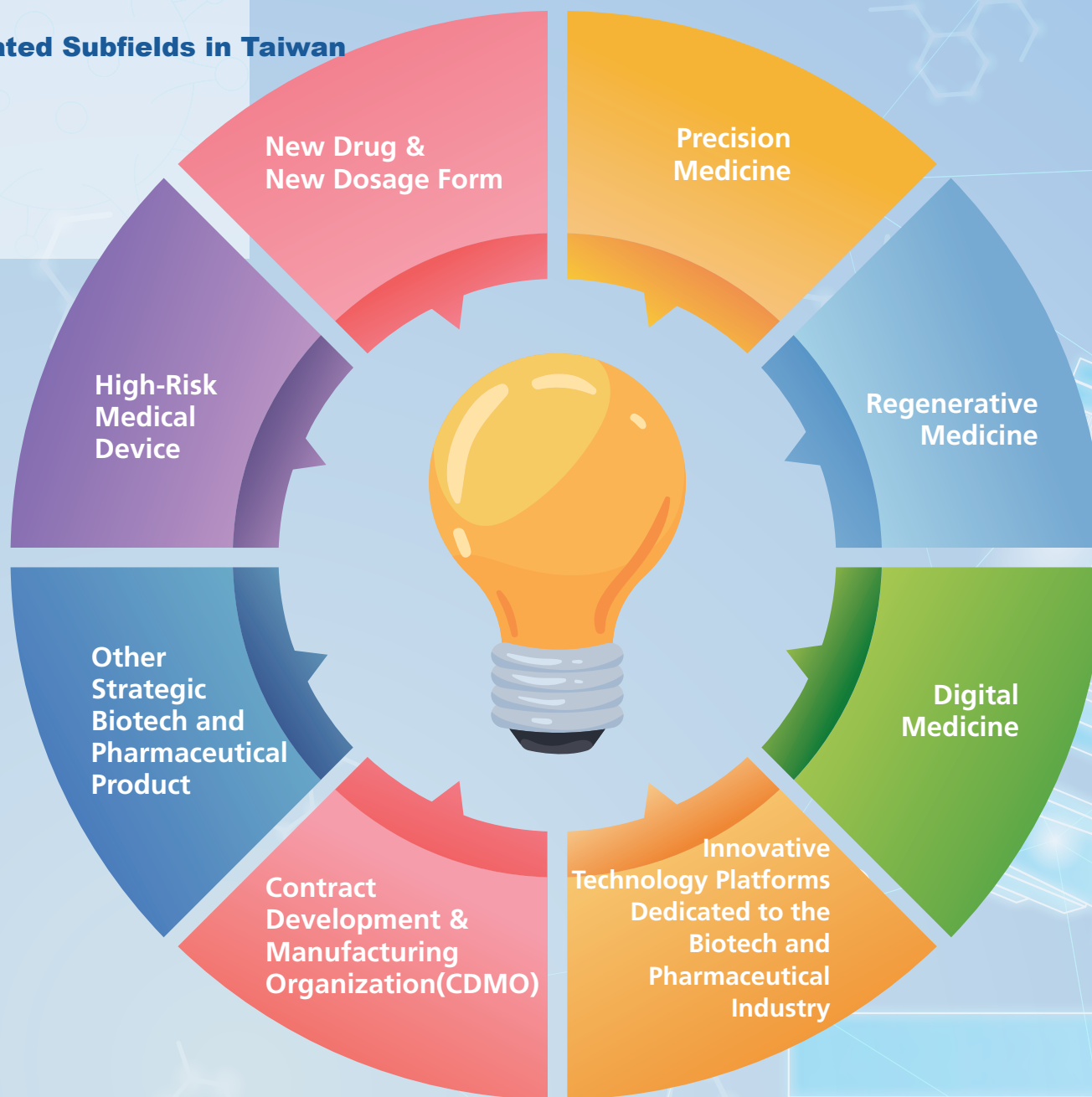
* Sources: Ministry of Foreign Affairs

Taiwan's Biomedical Industry Sectors

Taiwan's biomedical industry comprises four major sectors: Applied biotechnology, Pharmaceuticals, Medical devices, and Healthcare.

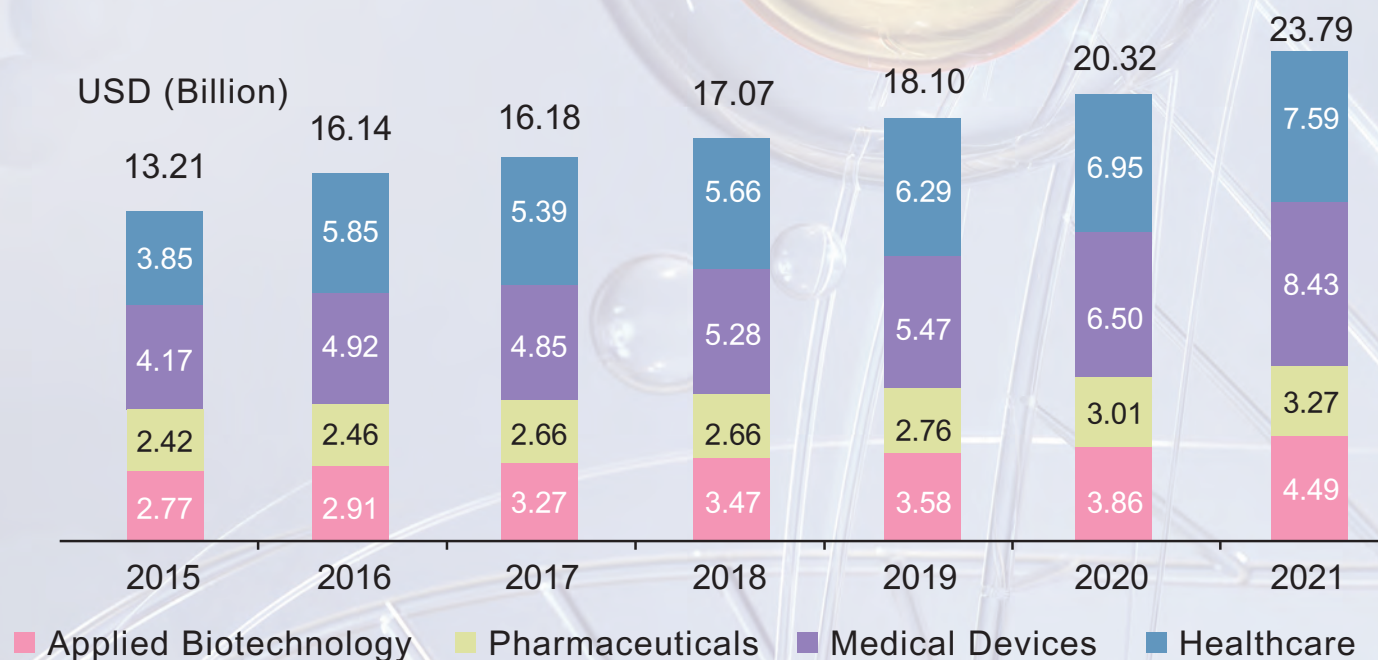


Focus of Dedicated Subfields in Taiwan



In 2021, Taiwan's biomedical industry reached USD 23.79 billion in revenue, representing a growth of approximately 17.1% from 2020 (USD 20.32 billion).

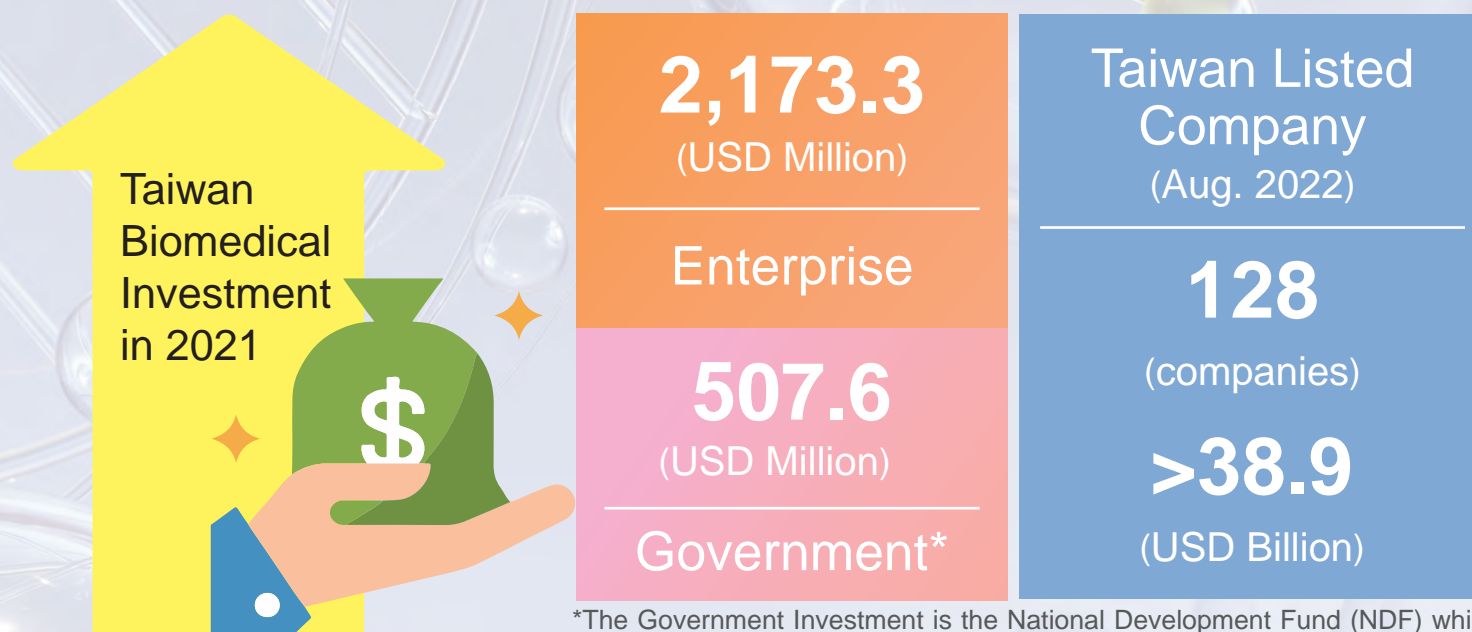
While healthcare represents the largest subsector in Taiwan's biomedical industry, with revenue of USD 7.59 billion in 2021, or 31.9% of the total revenue in this industry, medical devices ranks 2nd with revenue of USD 8.43 billion in 2021 or 35.4% of the total revenue.



* Source: Biotechnology Industry in Taiwan 2022. IDB, MOEA

The public offering market represents a platform for the government, companies, and investors to raise funds and invest directly. Taiwan's negotiable securities market is categorized into over-the-counter and exchange markets based on features to review. Companies intending to engage in innovative and creative undertakings can raise funds through the emerging stock market or the Go Incubation Board for Startup and Acceleration Firms (GISA) stock market via underwriting firms familiar with relevant operations and regulations.

In August of 2021, Taiwan had 128 listed biotech and medical care companies, with a total value of USD 38.94 billion. Among them, 75 and 20 companies have registered on emerging and GISA stock markets respectively. Through diverse capital market fundraising channels for operating and R&D funds, the value of Taiwan's public capital market continues to grow.



*The Government Investment is the National Development Fund (NDF) which includes Important Emerging Industries Investments, Special Project Investments, Venture Capital Investments, and Business Angel Investment Program.



NATIONAL BIOTECHNOLOGY RESEARCH PARK

國家生技研究園

The National Biotechnology Research Park facilitates innovative research by closely integrating key institutions to create an efficient cluster effect.

Comprehensive Bio-industrial Clusters

Bio clusters

Hsinchu Biomedical Science Park
Hsinchu Science Park
Hsinchu Industrial Park

Focus

Hi-Tech Medical Devices
Smart Machinery
Biologics

Taoyuan
International Airport

Taipei

Hsinchu

Taichung

Taipei – Kaohsiung

Daily Life Circle

The Taiwan High Speed Rail (THSR)
travels from north to south in just 90 minutes.



Bio clusters

Central Taiwan Science Park
Central Region Industrial Park

Focus

Medical Devices
Production of Pharmaceuticals

Bio clusters

Southern Taiwan Science Park
Southern Region Industrial Park

Focus

Hi-Tech Medical Devices
Active Pharmaceutical Ingredients

Tainan

Kaohsiung

Pingtung

Bio clusters

Pingtung Agricultural Biotechnology Park

Focus

Agricultural Biotechnology
Traditional Herbal Medicine
Animal and Plant Medicine

Successful Examples of Multinational Corporations Investing in Taiwan



Successful Examples of Multinational Corporations Investing in Taiwan



STRENGTHS AND ADVANTAGES

PIC/S GMP from 2013

Taiwan owns drug review regulations conforming to international standards and pharmaceutical processes in accordance with internationally accepted PIC/S GMP specifications.

Reliable Clinical Trial Sites

Taiwan currently has 25 medical centers and 143 clinical trial hospitals that provide clinical trial sites for new drugs or medical materials. The Taiwan Clinical Trial Consortium (TCTC) works to promote Taiwan as an Asia-Pacific regional leader in new drug and clinical trials and facilitates the development and commercialization of international and domestic biomedical products.

Sound Infrastructure

Taiwan has a dense, comprehensive transportation network and relatively inexpensive water, electricity, and telecommunications utilities that approach 100% penetration.

Diverse Culture of Innovation

Taiwan boasts a thriving R&D sector. Innovative elements bring worldwide popularity to its high-tech consumer electronic products, chain store services, public-use bicycles, pearl milk tea and Chinese-language music.



Well-Protected Intellectual Properties

Regarding protection for intellectual properties, Taiwan adheres to international treaties and norms. Relevant policies and laws are open and transparent in Taiwan.

Excellent Labor Force

Taiwan's excellent labor force is nurtured by its universal education system, which produces more than 300,000 new graduates each year at the college level or above.

Government Subsidies for Foreign Partnership: Global Innovation Partnership Initiatives

This program encourages international and local companies to work together, and co-develop new technologies, such as forward-looking technologies, key technologies, and integrated technologies, in order to co-construct the ecosystem of domestic industries, promote international cooperation, and create a win-win situations for both.

Friendly towards Fundraising and Financing

Abundant capital, stable exchange rates, and relatively low interest rates and capital costs make Taiwan a friendly environment for fundraising and financing. Policies to attract foreign investment include relaxing restrictions on foreign enterprises that seek to raise capital and simplifying fundraising administrative procedures

BPIPO SERVES AS THE ONE-STOP-SHOP FOR THE BIOMEDICAL INDUSTRY

The Biotechnology and Pharmaceutical Industries Promotion Office (BPIPO) is the first point of contact for Taiwan's biomedical industries. The office provides business development assistance to companies of all sizes at all stages worldwide.

Every year, BPIPO assists more than 100 companies in their business growth. Over the past few years, it has even helped Taiwan's biomedical industry receive investments of more than USD 1.5 billion per year.

BPIPO aims to be the world's partner for business development in Taiwan's biomedical sector.



The assistance provided by BPIPO includes financial support, personnel training and recruitment, R&D collaboration, technology transfer, regulatory issues, commercialization, marketing, promotion activities, stock listing, strategic alliances, and others.



**Biotechnology & Pharmaceutical
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<https://www.biopharm.org.tw>

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Businesses seeking investment
services may also contact
InvesTaiwan.



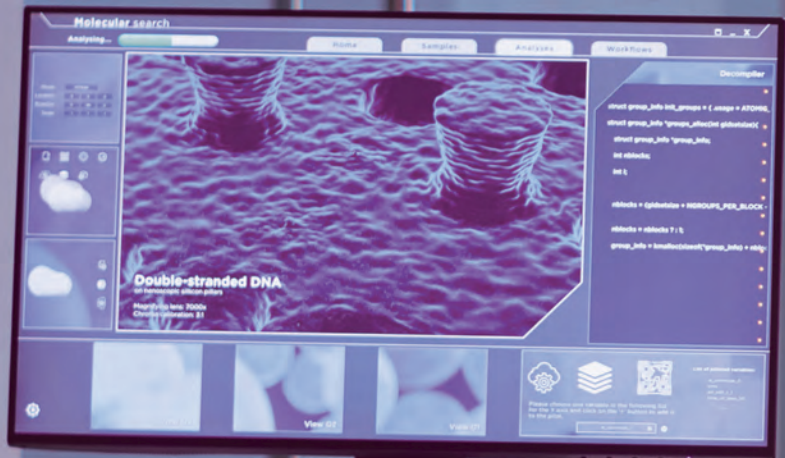
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Research Institutions as Technology Pioneers, Industry Backup, and Integrated Services Provider



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ITRI
Industrial Technology
Research Institute

**Industrial Technology
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(+886) 800 45 8899
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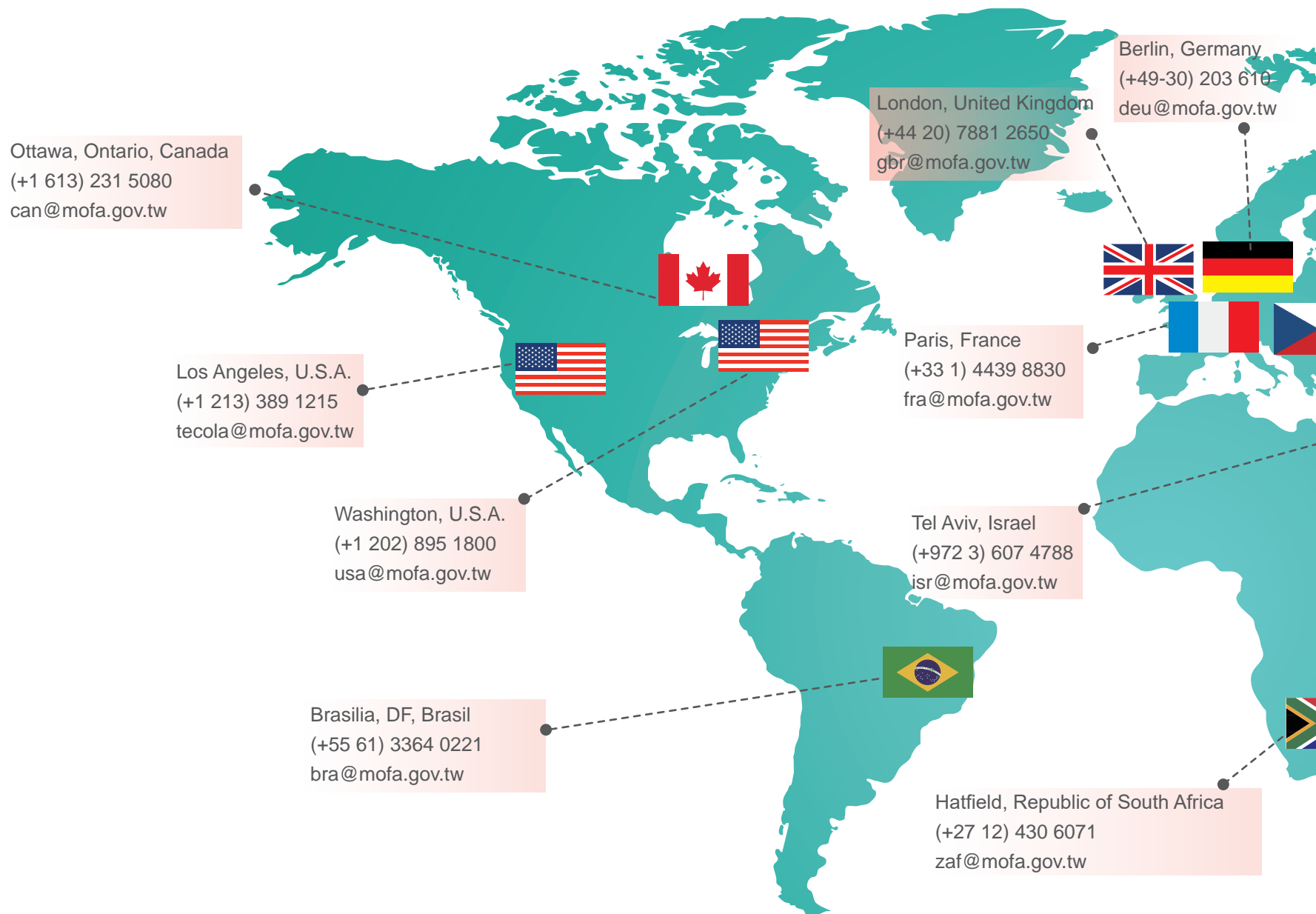


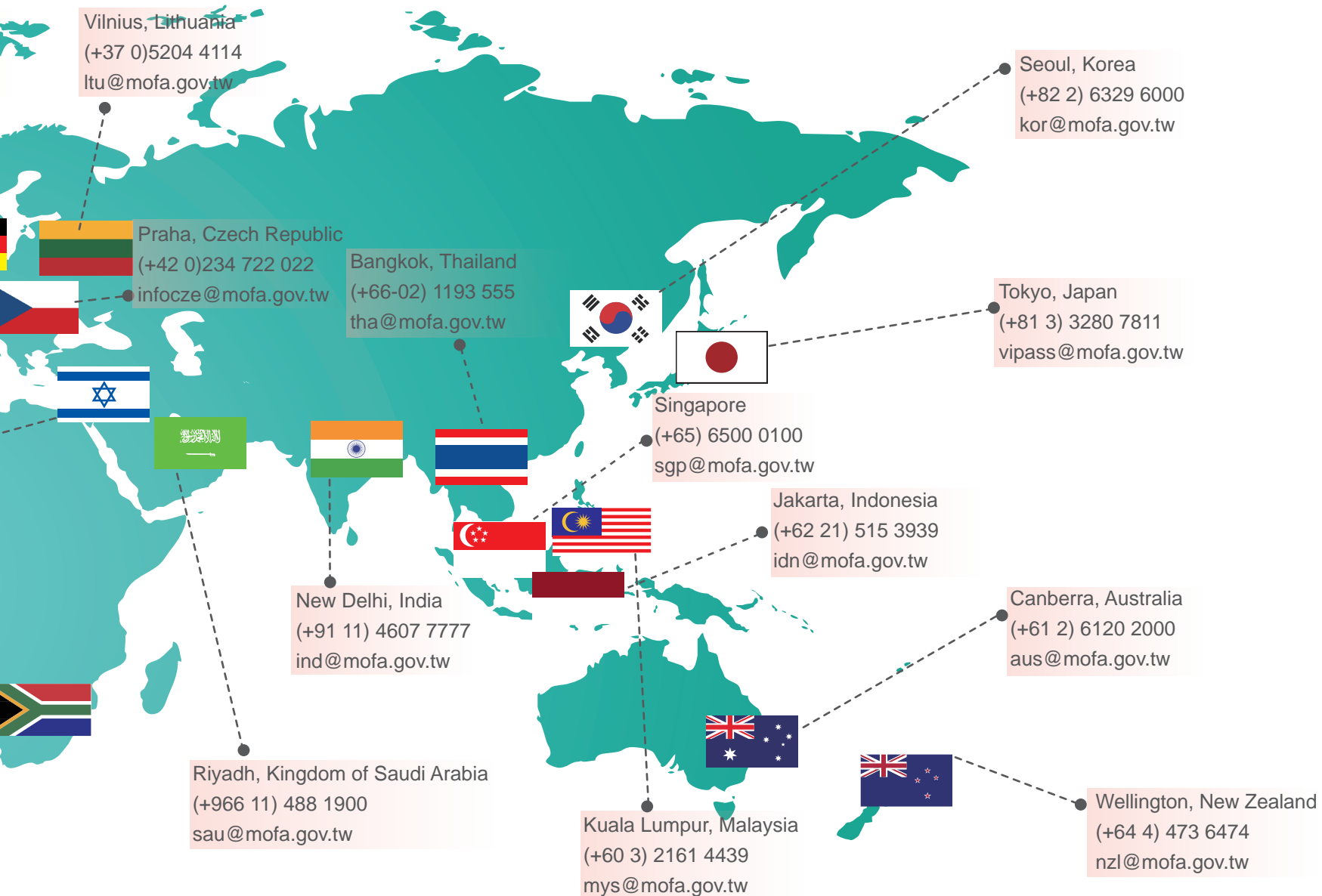
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Photo by Tourism Bureau, Ministry of Transportation and Communication

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