Significant Milestones in Singapore's Bioeconomy

The Singapore government has introduced a fifteen-year Biomedical Sciences Plan with the aim of establishing a global hub for pharmaceuticals and medical technology manufacturing.

1985 The Institute of Molecular and Cell Biology (IMCB) established in Singapore – Laying the foundation for research and talent in Singapore's bioeconomy industry

National Science & Technology Board (NSTB) established

Biomedical Sciences Initiative (BSI) established, offering tax incentives and funding to attract pharmaceutical companies to establish operations and develop skilled workforce

The Singapore Economic Development Board started nurturing biopharmaceutical companies through equity investments, with a total cumulative investment of 436 million Singapore dollars to date

1991 Announcement of National Technology Plan 1995. Aim is to develop advanced technological capabilities for moving Singapore up economic value chain

1996 Announcement of Science and Technology Plan 2000 for: the construction of Singapore's science and technology infrastructure, with key projects in new materials, biology and medicine etc.

1997 Tuas Biomedical Park Opened

1998 "The Ten Elite Universities Plan" aims to attract top universities and talent from around the world

Launch of Biomedical Sciences Industry Development Plan (BMS IDP) focused on biomedical research, industry and talent development

2000 Singapore's Medical Development Blueprint is officially launched, and Singapore has joined the International Pharmaceutical Inspection Co-operation Scheme (PIC/S), while also signing mutual recognition agreements (MRA) with Southeast Asian countries seeking PIC/S membership

Bio*One Capital established to invest in healthcare information technology, medical and therapeutics industries

2001 Announcement of Science and Technology Plan 2005. Set aside $7 billion to develop additional infrastructure and attract international talent

1 2000-2015

Building the industry infrastructure and establishing the bioeconomy industry as a national strategy

1 2 3

2002 The Singapore Economic Development Board has invested between 150 million to 200 million Singapore dollars to establish the largest local bioproduct manufacturing company, primarily focused on producing monoclonal antibodies. This company provides raw materials and services to major pharmaceutical companies, including cultivation, purification, analytical testing, and quality control

2003 Opening of Phase I of Biopolis

2004 The biomedical science industry has achieved a production value of 15 billion Singapore dollars, surpassing the target of 12 billion Singapore dollars set in 2005

2005 Announcement of the expansion of the TBP Grand Biomedical Park

Approval of Campus for Research Excellence and Technological Enterprise (CREATE) to allow students and researchers to collaborate in cutting-edge research and develop new start-ups

Announcement of Science and Technology Plan 2010. Anchors Singapore's transition into a knowledge and innovation-driven economy

2006 Opening of Phase II of Biopolis

2 2006-2010

Enhancing scientific research commercialization and clinical research capabilities

2007 Biomedical Sciences Industry Partnership Office (BMSIPO) established to facilitate partnerships between the government, academia and industry in the biomedical sector, and the Health Sciences Authority (HSA)

2009 Singapore has been included in the Organization for Economic Cooperation and Development (OECD) data mutual recognition framework, allowing data obtained from clinical preclinical trials conducted in Singapore, complying with laboratory standards, to be accepted by 30 OECD and non-OECD member countries, including the United States, the European Union, Japan, and others

2010

Announcement of Research, Innovation and Enterprise 2015. Will invest over $16.1 billion over 2011-15 to boost RIE and set key R&D strategies to support Singapore's vision to become a research-intensive, innovative and entrepreneurial economy

2011 Opening of Phase II of Biopolis

3 2011-2015

Seizing the opportunity to expand influence in the economic and health sectors

2012 Opening of MedTech hub

2013 "Returning Singaporean Scientists Scheme" focuses on attracting overseas Singaporean scientific leaders to return to the country. In the same year, they also announced the "IP Hub Master Plan," with a vision to establish an Asian hub and highland for intellectual property in the next decade

2014 Opening of Phase IV,V of Biopolis

2015 Human Biomedical Research Act enacted to provide clarity regarding the responsibilities of individuals and body corporates involved in human biomedical research and the handling of human tissue

The biomedicine and biomedical science manufacturing industry has achieved a production value of 28 billion Singapore dollars, surpassing the target of 25 billion Singapore dollars set in 2015

International pharmaceutical giant GlaxoSmithKline (GSK) has relocated its Asia-Pacific headquarters to Singapore, bringing with it over a hundred global or regional executives and talents. Subsequently, over a dozen multinational companies have followed suit by establishing their Asia-Pacific headquarters or key strategic offices in Singapore.

2016 Announcement of Research, Innovation and Enterprise 2020. Will invest $19 billion for the RIE 2020 plan

2016-2020

The Singapore government has once again designated the health and biomedical sciences field as one of the strategic areas in the RIE2020 (Research, Innovation, and Enterprise 2020) plan, with a commitment to establish a global leadership center in human health

2019 Opening of Phase VI of Biopolis

2020 Singapore RIE2025 Budget: $25 billion SGD for RIE - accounting for 1% of Singapore's GDP

2021 Singapore has unveiled its 2030 Intellectual Property Strategy, outlining a blueprint for the next decade

2022 The Health Sciences Authority (HSA) of Singapore has received the highest rating from the World Health Organization (WHO) as a national regulatory authority, signifying a highly mature regulatory system in various specialized areas

2023

2021-2023

The Singapore government has further outlined three major priorities in the RIE2025 (Research, Innovation, and Enterprise Plan 2025):
1. Enhancing research in human potential.
2. Leveraging digital technology for healthcare system transformation.
3. Maximizing the economic value of technology."

Agency for Science, Technology and Research (A*Star) will launch MedTech Catapult to establish Singapore as leading hub for medical device product development

Government plans to invest additional $3 billion to drive innovation across economy through RIE2025 in technology fields including biotechnology

Agency for Science, Technology and Research (A*Star) launched a Nucleic Acid Therapeutics Initiative (NATi) to establish Singapore as regional hub for research, clinical translation, and commercialisation of nucleic acid therapeutics

2024 Singapore Budget 2024 announces Singapore government will double down on R&D investments for critical & novel technologies and cutting-edge research

The "Fifteen-Year Medium to Long-Term Strategy" serves as the primary framework, complemented by multiple "Five-Year Plans." This comprehensive, multi-domain approach is systematically and steadily advancing, creating a favourable ecosystem for the development of human capital and the bio-economy.

Significant Milestones in Hong Kong's Bioeconomy

1988 The government public fund has established the Hong Kong Institute of Biotechnology, focusing on biotechnology research and development, as well as the scientific research commercialization.

1996 The Hong Kong Institute of Biotechnology established the Biotechnology Incubation Center

1998 The Chief Executive's Policy Address outlines the "Hong Kong's I&T Development Blueprint," allocating 5 billion Hong Kong dollars to establish an Innovation and Technology Fund and the establishment of the Hong Kong Applied Science and Technology Research Institute

2001 The Hong Kong Science and Technology Parks Corporation (HKSTP) was established with a commitment to enhancing innovation and technology infrastructure

2002 Establishment of the Commerce, Industry and Technology Bureau

2011 Hong Kong has identified biomedicine as one of its key development areas and is increasing its support through relevant policies and funding

2012 The Hong Kong Science and Technology Parks Corporation (HKSTP) has launched the Incu-Bio program, providing incubation services for biotechnology startups

2013 Hong Kong Policy Address: Government aims to promote enhanced scientific research collaboration between Mainland China and Hong Kong and promote university research & development results

2013/14-2017/18

During the period from 2013/14 to 2017/18, the Research Grants Council provided public funding for 803 local university projects related to biotechnology, totaling HKD 1.2 billion.

2014 Two Phase I clinical trial centers have been established in Hong Kong

2015 The Innovation, Technology and Industry Bureau (ITB) has been established, becoming the first high-level policy bureau responsible for formulating and implementing innovation and technology policies

2016 Since the 2012 launch of the HK, Macao and Taiwan Science and Technology Co-operation programme, a total of 80 projects have been initiated so far, of which Hong Kong took part in 41 in areas of research such as biomedicine and new energy

2017 The Hong Kong-Shenzhen Innovation and Technology Park Company Limited has been established

2018 The government has launched the 'Technology Talent Admission Scheme,' which expedites arrangements for overseas and mainland technology experts to come to Hong Kong to engage in research and development work. A fund of 10 billion Hong Kong dollars has been allocated to establish the 'InnoHK - Hong Kong Innovation and Technology Research Platform,' encompassing 16 laboratories related to life and health sciences. The Hong Kong Stock Exchange introduced Listing Rule Chapter 18A, allowing bio-tech companies with no profits or revenue to be listed on the local stock market.

2019 Health@InnoHK Established

2018-2019

The 2018-2019 budget has established biotechnology development as one of the four major categories in advancing innovation and technology in Hong Kong

2021 Northern Metropolis Development Strategy - Attract innovative technology-based industrial chain enterprises among others to settle in the Northern Metropolis

2022 Establishment of OASES to attract 100 high-potential enterprises, including those in the life sciences field; Earmarking $10 billion to launch the "Research, Academic and Industry Sectors One-plus Scheme" (RAISe+ Scheme); Accelerating the development of the Hong Kong-Shenzhen Innovation and Technology Park and the San Tin Technopole.

The Hong Kong I&T Development Blueprint has been released once again, aiming to establish a clear development path and formulate systematic strategic plans for the I&T development in Hong Kong over the next five to ten years

2023 The International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) has accepted Hong Kong, China as its observer

Established the new "1+" mechanism to expedite the approval of new drugs for the treatment of serious or rare diseases

As of the end of August, a total of 119 bioeconomy-related companies are listed in Hong Kong, with 60 of them listed under HKEX Chapter 18A

2023 Hong Kong Policy Address:

- The Government plans to establish the Hong Kong Centre for Medical Products Regulation (CMPR) to become an internationally recognized authority in drugs and medicine regulation and adopt the "primary evaluation" approach for pharmaceutical products
- Plans to establish the Greater Bay Area International Clinical Trial Institute in the Hetao Shenzhen-Hong Kong Science and Technology Innovation Co-operation Zone in 2024

2022-2023

The 2022-23 Budget has allocated 10 billion Hong Kong dollars to enhance the innovation and technology industry chain and establish the 'InnoLife Healthtech Hub,' a center for life and health innovation research, in the Hong Kong-Shenzhen Innovation and Technology Park

Nurturing Talent

Chapter 18C of the Hong Kong Stock Exchange states that specialized technology companies that fail to meet the Main Board listing requirements of the Stock Exchange but meet certain conditions can be listed in Hong Kong through the listing conditions specified in Chapter 18C

Establishment of Preparatory Office for Hong Kong Centre for Medical Products Regulation (CMPR)

2024-25Hong Kong Budget: $6 billion for universities to set up life and health technology research institutes, $200 million to support incubation and acceleration programmes to Hetao life and health technology start-ups for the Hetao Shenzhen-Hong Kong Science and Technology Innovation Co-operation Zone

The Hong Kong-Shenzhen Innovation and Technology Park Limited announced the launch of partnerships with approximately 60 international universities and research institutions from the Mainland, Hong Kong and rest of the world. Among the 60 companies, 45% come from the park's key industries such as life and health technology, new energy etc.

Hong Kong Investment Corporation Limited (HKIC) announced that they are actively seeking partners to directly invest/co-invest in potential projects, in areas such as life and green technology

2024 Throughout the past year, the Office for Attracting Strategic Enterprises (OASES) has successfully attracted around 30 companies to set up or expand business in Hong Kong, as well as signing collaboration agreements with 20 companies, including AstraZeneca etc.

Generous funding schemes; comprehensive coverage of the I&T industry; started to focus on R&D commercialization and talent introduction & cultivation over the past decade; a combination of efforts from the government and capital market.

Researcher: Leo Chen
Supervisor: Ruby Liao

11th July 2024

HKBMIA
香港生物醫藥創新協會
HK Bio-Med Innotech Association