



Artist's impression of the SINOVAC High Precision Achievement Transformation Base, under construction as part of the expansion of the life science park in Changping's 'Life Valley'.

THE UPWARD TRAJECTORY OF CHINA'S 'SILICON VALLEY' FOR THE LIFE SCIENCES

With the Life Science Park as the jewel in its crown, **THE LIFE SCIENCES ZONE IN THE CHANGPING DISTRICT OF BEIJING** is growing and branching out into novel areas of research and development.

In the post-pandemic world, the life sciences are taking centre stage. From Boston's Kendall Square to Singapore's Biopolis, innovation districts that focus on the life sciences have the potential to fuel national economies, transform health and improve quality of life.

One such district is the Changping's Life Valley, a sprawling zone of research institutions and pharmaceutical and health enterprises clustered across more than seven square kilometres in the Changping district, a suburb in Beijing's northwest with stunning mountain views.

Much of Life Valley is the Zhongguancun (ZGC) Life Science Park.

The park, which is the beneficiary of 20 years of government support, is expected

to grow significantly in coming years. Three new zones are being developed: the Frontier Technology zone, the Medical Device zone, and the Beauty and Health zone.

To speed the development of the pharmaceutical and health industry across Life Valley, the Changping District local government is also introducing new policies.

These include the 'industry multiplication' action plan — which provides additional investment, support for talent development and infrastructure — and blueprints for the construction of a life sciences innovation corridor, Changping District Mayor Zhi Xianwei told the 2023 Beijing-Changping International Forum on Life Science, in November 2023.

"It is imperative to develop

the infrastructure and provide policy support for Life Valley," Qiang Liu, the deputy governor of Changping district, later told attendees at the opening of the 'Drug Discovery and Development Forum of the ZGC Life Science Park'.

The event, organized by Beijing Changping People's Government, with the support of Nature Research Custom Media, was part of the 2023 Beijing-Changping International Forum on Life Science.

FERTILE ENDEAVOURS

Founded in 2000, the life science park is home to hundreds of pharmaceutical, biotech, medical and academic enterprises (see box, opposite). The proximity of so many R&D related enterprises, together with high-profile conferences

and events, is helping catalyse all steps of the innovation life cycle, from basic research to development, prototyping, pilot production and distribution, says Zhi.

Close to 80 billion RMB (US\$11.2 billion) revenue was reported in 2022 from Changping's pharmaceutical and health industry.

Notable products to come out of the Life Valley include a US Food and Drug Administration-approved anti-cancer drug developed by BeiGene, a Chinese company that has expanded globally.

MEETING OF MINDS

"It was fascinating to visit China and see the amount of investment going into research, as well as to see the types of research that are of interest,"



▲ Beijing GoBroad Hospital (top), in the ZGC Life Science Park, is among China's first international research hospitals. The park lies within the Changping's 'Life Valley', which is famous for its mountain views and proximity to the Juyong pass of the Great Wall of China (bottom).

says neuroscientist, Antonia Hamilton, of University College London in the United Kingdom. Hamilton was a key speaker at 'The Great Brain Exploration: from Cognition to Brain-Inspired Technology', held in the life science park on 7-8 December 2023, a satellite event of the Beijing-Changping International Forum on Life Science.

Conferences such as these are key to stimulating research and innovation in Changping's Life Valley, says Liu. Symposia and forums on frontier topics in the life sciences, featuring prominent national and international researchers, take place here year-round.

"Having the opportunity to meet researchers in China and find out more about their work is valuable," says Hamilton, who shared her research on

neurocognition and how humans use imitation to send nonverbal signals, a process that can be disrupted in people with autism.

"Communication between China and the rest of the world is very important," agrees cell biologist, Junying Yuan, of Shanghai Institute of Organic Chemistry, part of the Chinese Academy of Sciences, who was a speaker at the 'Drug Discovery and Development Forum of the ZGC Life Science Park'.

FRESH PASTURES

At the event, Yuan shared the results of her research on RIPK1 — a kinase enzyme and a signalling molecule involved in cellular pathways related to cell survival and death.

RIPK1 is an important pharmacological target for drugs designed to treat human neurodegenerative diseases,

she told the meeting.

Looking to the future, "the park will further expand to the north," says Zhi. "There will be more research and research translation in the fields of cell and gene therapy, artificial intelligence, medical device research and development, synthetic biology, and innovative drugs."

Within five years, the park will be expanded to three major zones, he explains: The Frontier Technology zone, which will include R&D in cell and gene therapy, digital medicine, and synthetic biology. The Medical Device zone, which includes brain-computer interfaces, digital medicine, implant technology and high-end diagnostics. Finally, the Beauty and Health zone, provisionally called the 'Xiaotangshan Beauty Intelligence Park', will

host research institutions

and enterprises working on scientifically based cosmetics and nutritional services.

The Life Valley International Precision Medicine Industrial Park, the Life Valley Bio-engineering Innovation Centre, and the SINOVAC High Precision Achievement Transformation Base are already being built.

"More life science innovation will be happening in Changping," says Zhi. "With strong support, there will one day be a pharmaceutical and health hub worth 100 billion." ■

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THE JEWEL IN THE CROWN: CHANGPING'S LIFE SCIENCE PARK

Where: 'Life Valley' in Changping district, Beijing, China

Current area: 2.5 km²

Planned area: 4.7 km²

Chinese national-level scientific research and R&D institutions: More than 10, including the Changping Laboratory, the Beijing Institute of Life Sciences, the Chinese Institute for Brain Research, and the National Center for Protein Sciences - Beijing

Pharmaceutical enterprises: More than 900

Unicorns (privately held start-up companies with a value of over US\$1 billion): 4

Companies listed on stock markets: 18

Global pharmaceutical companies with production plants: Novartis Pharmaceuticals and Novo Nordisk, among others

Research-intensive universities with facilities in park: More than 40

Beds in hospitals and clinics: More than 3000

One of China's first international research hospitals: Beijing GoBroad Hospital, inaugurated in 2023

Total number of distinguished researchers: More than 300

Intellectual property patents: 10,749

Number of conferences held in 2023: More than 100

For more information: www.lifesciencepark.com.cn