

# CHINA

NATIONAL VISION, LOCAL ACTION

## Changping builds core of science power

Relocation of top labs strengthens Beijing's northern innovation corridor

By **YANG CHENG**  
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Several key national-level laboratories from prestigious institutions, including Tsinghua University, Peking University and other research institutes, will relocate to Beijing's Changping district, bolstering the capital's ambition to become a global hub for science and technology.

The move represents solid efforts to implement the city's development strategy and the country's innovation goals, said Liu Xiaodong, deputy Party chief and head of the district.



Liu Xiaodong said Changping is expected to become a new high-tech engine in China and the world," Liu said. Adjacent to Haidian district, the city's high-tech center, Changping already hosts one-third of Beijing's key national-level key laboratories and has the largest concentration of universities and working-age talent in the capital. Beijing has 92 universities and colleges, and Changping hosts 41 of their branches or major campuses.

The district has mapped out blueprints for the towns of Nankou and Machikou, drawing inspiration from renowned university towns such as Stanford in the United States, and the city of Cambridge in the United Kingdom, Liu said.

"We aim to build the two towns into 'scientist towns,'" he said.

In Nankou, Tsinghua University and the district have collaborated on developing a major national research base. The first phase has opened, with two laboratories currently operating. An interdisciplinary innovation institute has launched 11 technology transfer projects, including several state-of-the-art aerospace initiatives.

The second phase is expected to be completed by the end of the year, creating the largest and most concentrated cluster of national key laboratories outside Tsinghua's main campus.

In Machikou, Changping is working with Peking University's "New Campus + New Engineering" initiative to build another laboratory cluster, Liu said. The first nine facilities are expected to be completed by year's end.

Peking University recently signed an agreement with Changping district to boost innovation, industry and the local living environment.

Machikou, covering about 14 square kilometers, draws inspiration from internationally

renowned innovation corridors in the US, including Route 128 in Boston, Massachusetts, and Highway 101 in California.

The International Association of Science Parks and Areas of Innovation, a global network headquartered in Spain, held its annual meeting in Changping in September.

The organization's CEO, Ebba Lund, said Changping represents "a deeper understanding of the significant technological transformations emerging in Beijing."

She said she believes the district will serve as a catalyst for international exchanges and foster the prosperity and development of science parks globally.

Liu Bo, founder of MicroCyto, a high-tech company in Changping that made a breakthrough in resolving the challenge of separating allulose and glucose, said: "Changping has an innovation network comprising expert teams — academicians from Peking University and a number of startup firms. This natural intellectual magnet not only makes top industry experts readily accessible, but also enables efficient collaboration. Issues can be discussed at any time."

According to Global Market Insights, a research organization, the global allulose market reached \$147.7 million in 2024 and is projected to grow by more than 14 percent over the coming decade.

In addition, Changping has emphasized urban renewal and the upgrading of traditional industrial sites.

Currently, the Tsinghua projects have repurposed more than 100,000 square meters of existing factory buildings, reducing carbon emissions by about 74,000 metric tons compared with demolishing and rebuilding the sites. The achievement not only meets green and low-carbon goals, but also preserves the industrial heritage of the area, Liu said.

The area has been recognized as one of Beijing's first demonstration parks for industrial upgrading and industrial heritage preservation.

Meanwhile, in Machikou, which neighbors Nankou, the old factory buildings of Hongye Steel are being repurposed to develop the western section of an international medical device city that will host a cluster of national key laboratories.

Once completed, the two areas in Nankou and Machikou will form a world-class "innovation engine" through urban renewal in Changping, serving as a crucial pillar for driving regional innovation and development under the district's plan.



## Grand opening

Over 7,000 performers from 56 parade teams across China join locals in singing and dancing at Tonggu Square in Leishan county, Guizhou province, on Wednesday for the grand opening of the 2025 Miao New Year. The event celebrates the national intangible cultural heritage with traditional customs and festive activities.

LIANG WEN / FOR CHINA DAILY

## Xi'an City Wall gets health checkup after heavy rains

By **QIN FENG** in Xi'an and **WANG SONGSONG**

Cultural relics protection authorities in Xi'an, Shaanxi province, are implementing comprehensive measures to protect the iconic Xi'an City Wall from heavy rains linked to climate change, particularly over the past few months.

Since September, the province has experienced three prolonged rainy periods, with 87 monitoring stations recording more than 20 days of rainfall. The stations collectively recorded an average precipitation of 314 millimeters, 1.6 times higher than the normal level for this period. This marks the second-high precipitation since 1961, trailing only 2021.

The risks posed by heavy rainfall became clear five years ago. In August 2020, a 20-meter section of the protective masonry on the southern part of the Qin Prince Palace wall in Xi'an collapsed due to heavy rainfall. It was confirmed that only the recently restored outer layer was damaged, while the original Ming Dynasty (1368-1644) rammed-earth structure remained intact.

"The primary cause of damage to

the wall over the years has been water," said Gao Heng, head of the cultural heritage protection department of the Xi'an City Wall Management Committee.

According to Gao, increased moisture leads to two main types of damage: surface deterioration and structural issues. Surface deterioration primarily involves the growth of moss and lichen in the brick joints due to a more humid microclimate. While this does not threaten the wall's overall structural integrity, the growth requires manual removal.

A more significant concern is water seeping into cracks and reaching the wall's core, which is made of rammed earth. Once water infiltrates the rammed-earth structure, the soil's bearing capacity decreases, potentially leading to localized settlement or collapse.

"This, in turn, triggers localized subsidence and collapse. These cracks and depressions then channel rainwater, accelerating infiltration and creating a self-reinforcing vicious cycle that continuously threatens the structural safety of the wall," Gao said.

To address these problems, the

committee has adopted a differentiated maintenance approach. Routine maintenance includes promptly sealing cracks to block water seepage pathways and addressing settlement by re-leveling surface bricks and replacing damaged ones in affected areas. Engineering measures are required when severe cracks or significant settlement appear. These involve more thorough solutions such as re-compacting loose, unconsolidated soil on the wall's summit to enhance its bearing capacity and prevent water seepage.

A key drainage project, approved by the National Cultural Heritage Administration, is being implemented around the wall's foundation to divert rainwater.

"Keeping water away from the wall's base is crucial to its long-term stability," Gao said.

The committee has also introduced a "wall chief" system, assigning individuals to oversee specific sections for routine monitoring and the early reporting of issues.

Technology plays a vital role in these efforts. Since 2018, a "digital cabin" system that integrates more than 3,000 sensors has been

deployed to monitor settlement, crack displacement and other vital signs. Drones are deployed once every three months for aerial inspections. A four-color warning system — red, orange, yellow and green — assesses risks based on the severity and rate of change of any damage, allowing for targeted responses.

In 2023, a full "CT health scan" of the 13.74-kilometer-long wall was conducted using ground-penetrating radar and high-resolution surface wave technology. It revealed more than 1,300 historical cavities and 800 areas of less compact soil within the wall.

"These are not immediate dangers, but they are hidden risks we must monitor," Gao said.

Collaboration is another cornerstone of the preservation work. Gao said the local meteorological bureau provides specialized weather forecasts and early warnings, while universities such as Northwest University and a multidisciplinary committee of experts offer academic and technical support.

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## Experts urge disease prevention awareness to boost HPV vaccination

By **CHEN MEILING**  
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Increasing the coverage rate of HPV in China requires dispelling public misconceptions and enhancing awareness of disease prevention, experts said.

HPV is the leading cause of cervical cancer, a life-threatening disease that claimed nearly 350,000 lives worldwide in 2022, with China accounting for 16 percent of the deaths.

China will include a vaccine to treat HPV in the national immunization program starting on Monday, according to a new policy issued by seven government agencies on Oct 30. Free vaccinations with two doses of a bivalent HPV vaccine, given six months apart, will be provided to 13-year-old girls.

As of June, 18 provincial-level regions in China had provided free HPV vaccination for eligible girls, benefiting about 5 million girls annually, according to a white paper released by the State Council, China's Cabinet, on Sept 19.

In Beijing, for example, girls can receive free domestically developed bivalent vaccines that protect against HPV strains 16 and 18 — the two most common strains, which cause 70 to 80 percent of cervical cancers — once they reach seventh grade.

A staff member at the Taiyanggong Community Health Center in Beijing said students must arrange for the vaccinations through their schools. Since notifications were sent in September, the center has seen continuous visits from girls accompanied by their parents.

"Sexual transmission is the primary route of HPV infection, which is why we recommend young women get vaccinated against HPV before their first sexual intercourse," said Tan Xianjie, chief physician at the Gynecological Cancer Center of Peking Union Medical College Hospital in Beijing.

However, concerns persist among some parents.

Li Yun, mother of a first-year junior high school girl in Beijing who chose to use a pseudonym, said the school informed parents in September that students could voluntarily receive either free or paid HPV vaccines at a school-arranged time.

She chose the imported nine-valent vaccine for her daughter, priced at about 1,300 yuan (\$182.57), believing it to be "more reliable."

When she arrived at the health center on a weekend afternoon, only three girls were waiting.

"I talked with two parents in my daughter's class who refused the vaccination," she said. "One said it's not necessary as the child is too young and will not have sexual behaviors. Another worried that too many vaccinations may harm the child's health."

Li said she viewed the vaccination as an added precaution to protect her daughter's future health. Her daughter experienced no side effects, she added.

In Shanghai, girls age 9 to 14 had the lowest rates of first-dose HPV vaccination among all age groups from 2017 to 2024, at 14.1 percent, according to a paper published in the Chinese Journal of Epidemiology on Oct 17.

Qiao Youlin, a professor at the School of Population Medicine and Public Health at Peking Union Medical College, said the difficulties in promoting the national immunization program for HPV vaccines are temporary and will improve over time as health awareness increases.

"In some economically developed regions, people are willing to pay for imported nine-valent HPV vaccines, which is perfectly fine. As long as they get vaccinated, protection can be established," he said. "From the national perspective, the goal is to safeguard the interests of

as many people as possible and ensure health equity within capacity, which is why the free domestic bivalent HPV vaccine is currently provided."

He added that although nine-valent vaccines cover more HPV types than bivalent vaccines, bivalent vaccines protect against the most dangerous categories.

"The most urgent task at present is to vaccinate as early as possible," he said.

Zhao Fanghui, director of the Cancer Epidemiology Department at the National Cancer Center and Cancer Hospital, Chinese Academy of Medical Sciences, said that in some underdeveloped areas, people can only access vaccines through government support. She highlighted how including HPV vaccines in the national immunization program promotes health equity across the country.

She added that the benefits of vaccination may not become apparent for more than a decade, which may be why some parents do not take it seriously.

"As people hold more open attitudes toward sexuality today, some individuals may engage in sexual activity at a relatively early age, sometimes without their parents' knowledge," Zhao said.

The World Health Organization has set a global target to ensure that 90 percent of girls globally receive full vaccination against HPV by the age of 15 by 2030, as part of its efforts to eliminate cervical cancer.

"In China, the free vaccination policy has covered many eligible girls, which is an inspiring progress," Tan said. "Existing data show that the HPV vaccine is safe, and its protective effect can last for at least 10 years. But even after completing the full dosage, regular cervical cancer screenings are still recommended."

Liu Xueru contributed to this story.

### Briefly

#### Large dolomite deposit discovered in Gansu

A large magnesium-rich dolomite deposit with estimated resources of 700 million metric tons has been discovered in Pingliang city, Gansu province, local authorities said on Wednesday. The find represents a major breakthrough in mineral exploration in the Chinese region. According to the Gansu Department of Natural Resources, geological surveys identified the deposit in the Zhuannatai area of Kongtong district.

#### Innovative bridge opens to traffic

China's first double-deck cable-stayed suspension bridge — the Tongling Yangtze River Third Bridge — opened to traffic on Thursday in Tongling city, Anhui province. As the 11th bridge over the Yangtze River in Anhui, the project integrates expressways, intercity railways and freight lines, while also supporting intermodal transport between rail and water. On Thursday, the road section on the bridge was put into operation first, spanning 11.9 kilometers. The bridge is expected to further improve the comprehensive transportation system in the Yangtze River Delta region.

#### New alliance to safeguard biosafety

An international alliance of science and technology innovation in plant protection was recently launched in Guangzhou, Guangdong province, aiming to foster global cooperation in safeguarding plant health and food security. The BRI International Alliance of Science and Technology Innovation in Plant Protection was jointly unveiled by the Chinese Academy of Agricultural Sciences' Institute of Plant Protection and the Center for Agriculture and Bioscience International, a non-profit organization focused on addressing agricultural and environmental challenges.

## Frozen commute



A bus moves slowly through heavy snow on Tuanjie Road in Urumqi, Xinjiang Uygur autonomous region, on Thursday. The city was blanketed in white after a strong rain-and-snow spell, from Wednesday to midday Thursday, brought up to 37.93 millimeters of precipitation in 24 hours — the highest single-day total on record for November. YUETIKE NIJATI / FOR CHINA DAILY