

Beijing promotes the development of AI business parks

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With the rapid development of artificial intelligence (AI), the State Council issued the “Planning for the Development of the New Generation of AI” in July 2017. Beijing Municipal government also released the “Guideline for Accelerating the Development of Sci-tech Renovation and Fostering the AI Industry” on 26 December 2017, to guide the direction of the city's new generation of artificial intelligence. Subsequently, Mentougou District announced on 2 January 2018 that it would build the Zhongguancun Artificial Intelligence Science Park (ZAISP) in Mentougou New Town within the next three to five years. Although ZAISP is not the first AI science park in China, the advantages of Beijing in talent, technology and enterprise should help the city lead China's AI industry. Asian technology sector occupiers already recognise Beijing's importance, and we expect Beijing to continue to attract new companies and investment capital.

What is the new generation of AI?

According to the “Planning for the Development of the New Generation of Artificial Intelligence” issued by the State Council, the new generation of AI advocated by the central government refers to industries such as intelligent software and hardware, intelligent robots, intelligent vehicles, virtual reality and augmented reality, intelligent terminals, and the basic apparatus of the Internet of Things (IoT). We broadly agree with this definition. Please see Colliers' Radar report "Impact of Artificial Intelligence on Indian Real Estate" (5 October 2017) for further discussion of the definition of AI in an Indian and a pan-Asian context.

Key directions of Beijing's AI development

According to the “Guideline for Accelerating the Development of Sci-tech Renovation and Fostering the AI Industry” by the Beijing Municipal Government, the following are the targets for 2020:

- > The general technology and application of new generation of AI to reach advanced worldwide standard. Some of the key technologies to reach the leading worldwide level.
- > To create several important original basic theories and make certain advanced technological achievements.
- > To cultivate certain AI leaders with international influence. To set up a batch of distinctive innovative enterprises and establish an ecological system of innovative.
- > To become one of the most important AI creative centres.
- > Since AI should strongly support the development of economy and social development, to expect AI become a new economic growth engine.

The guideline lists the following sectors as the key development fields:

- > The key basic software such as the open source open platform facing AI and operating system
- > The key hardware such as AI chips
- > The technology integration and the systematic services such as IoT, Internet of Vehicles, and intelligence drive
- > Intelligent robots
- > The utilisation of virtual reality and augmented reality in the key industries
- > The key tech of intelligent terminal and products R&D
- > Natural language processing

> Image recognition

Distribution and Development of Beijing's AI Industries

Beijing has strong advantages in terms of talent, technology, enterprise, and capital for the development of AI-related industries.

Many famous AI research institutions are concentrated in Beijing, including more than 10 National Key Laboratories, such as the National Laboratory of Pattern Recognition, the National Laboratory of Intelligence Technology and Systems, and the National Engineering Laboratory for Deep Learning Technology and Applications. Certain key AI technologies such as neural network chip and computer vision have reached world-leading levels in Beijing. In addition, Beijing is home to several highly reputed universities, especially Peking University and Tsinghua University.

In terms of enterprises and capital, according to public information, there were almost 400 AI enterprises in Beijing by end-September 2017, the highest level in China. There are nearly 160 AI start-up companies in Beijing, accounting for 40% of total in China during the same period. In addition, the value of investment in AI in

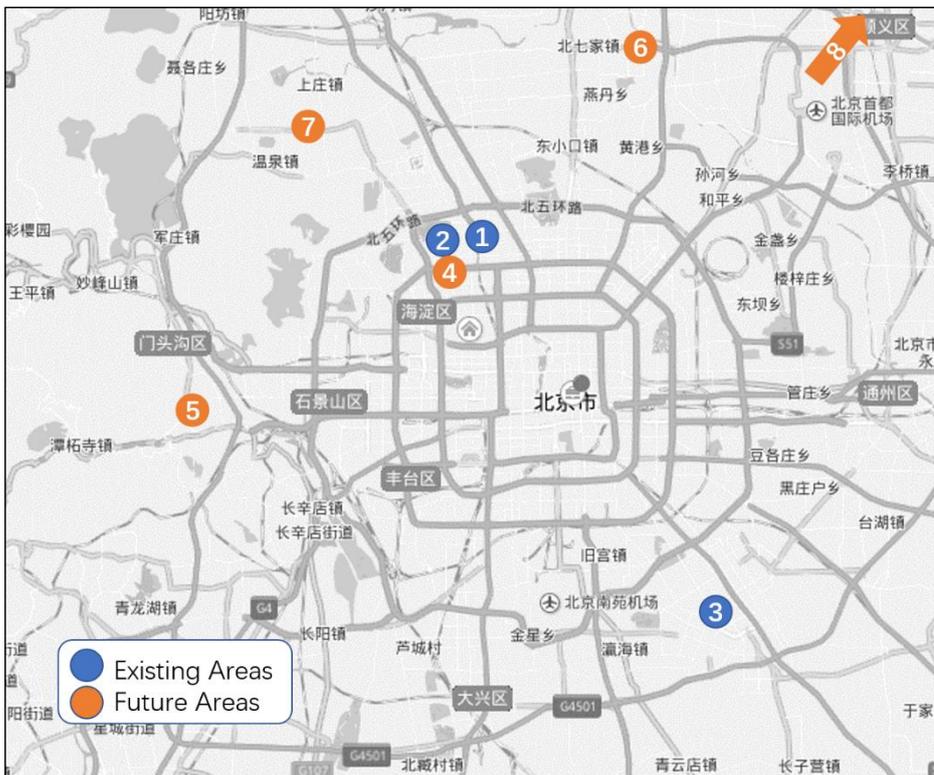
Beijing ranked as top in China. During the first nine months of 2017, investment in a total of 51 AI-related projects in Beijing reached RMB10.24 billion (USD1.63 billion), accounting for approximately one-half of the total investment in AI in China.

If we look at the distribution of AI enterprises in Beijing (see map below), it is easy to see that most of them are located in Haidian District. According to a survey by CY Zone, a leading start-up service platform in China, nearly half of the top 50 AI start-up companies are based in the Beijing, with 17 enterprises in Haidian District.

Currently, the most concentrated areas for AI companies are the Z-Park I-M-Way in Haidian District and Yichuang Robot Creative Park in the Beijing Economic and Technological Development Zone (BDA). There is also an AI National co-working space in the Peking University Science Park.

> Z-Park I-M-Way was set-up by Haidian District in 2016, with the aim of establishing a new type of innovative start-up street with the theme of intelligence manufacturing. The street starts from the east gate of Tsinghua University in north and ends at the Chengfu Road in south. The total length is 380 metres which includes the universities and institutions such as Tsinghua University, Peking

AI Industry Distribution Areas Map



No.	Existing Areas
1	Z-Park I-M-Way
2	AI National co-working space in the Peking University Science Park
3	Yichuang Robot Creative Park
No.	Future Areas
4	Zhongguancun Science City Zhongguancun Avenue area
5	Zhongguancun Science Park AI Park
6	Future Science City
7	Zhongguancun Science City Beiqing Road area
8	Huairou Science City

Source: Colliers International Research, North China

University, Beihang University and Chinese Academy of Sciences. 46 enterprises are concentrated in the street with a total added value of more than RMB100 billion (USD15.9 billion).

- > Yichuang Robot Creative Park in BDA was set up in 2015; it was renovated from an original factory with a total GFA of around 87,000 sq m (936,460 sq ft). The park is positioned as the R&D centre of Beijing's robot industry. By August 2017, more than 30 enterprises had entered the park with total commitment rate of more than 90%.

According to the "Guideline for Accelerating the Development of Sci-tech Renovation and Fostering the AI Industry", Beijing's AI industry will be generally distributed into the following five key areas in the future:

- > Zhongguancun Science City: to be the AI technology cradle and the core area for creative enterprises
- > Future Science Park: to be the leading area aiming at transforming scientific and technological achievement into actual productivity
- > Huairou Science Park: to be the area for basic research into AI, following the inaugural meeting held by the University of Chinese Academy of Sciences for its School of AI in September 2017 at the Huairou Science Park, which lies next to the Yanxi Lake in Hairou District.
- > BDA: to focus on Made in China 2025 to develop intelligent manufacturing, intelligent robots, intelligent logistics, and intelligent driving sectors.
- > Zhongguancun Science Park: to construct an AI business park and to be the core location for AI industry.

The above mentioned Zhongguancun AI Science Park in Mentougou District is one of the projects to be constructed in Zhongguancun Science Park. This park is located in the Mentougou New Town, at the west end of the Chang An Avenue West extension street and adjacent to the Liyuanzhuang Station of the light line S1. The total area of the Science Park site is 54.87 hectare (5.9 million sq ft) with a construction site area of 22.22 hectare (2.4 million sq ft). Total planned GFA is 596,200 sq m (6.4 million sq ft). According to the plan, approximately RMB2.0 billion (USD317 million) will be invested in the primary land development by end-2018. The whole project is expected to be completed in three to five years with total investment of approximately RMB13.8 billion (USD2.2 billion). The park is intended to attract around 400 enterprises with the annual added-value of around RMB50 billion (USD7.9 billion).

Zhongguancun AI science park in Mentougou district



Source: Zhongguancun Jingxi Construction Development Co., Ltd.

Asian technology groups already recognise Beijing's importance

Colliers published its major Tech Trends in Asia report on 5 December 2017. This report was based on detailed interviews held in H2 2017 with 12 large technology companies, ranging from Asia-founded to Western MNCs operating in the region across the hardware, software, technology services and social media sectors.

As shown in the tables overleaf, the technology sector occupiers that we interviewed consider Beijing/North China to be the single greatest source of talent within Asia, followed by Shanghai/East China and India (Bangalore). Our respondents appear to value Chinese education: one western multinational company cited the importance of being located near good Chinese universities in cities like Beijing, Shanghai and Chengdu. Four occupiers in our sample expressed a general preference for India rather than a specific region within the country, while two expressed a general preference for China rather than a specific Chinese region.

Looking ahead, we believe that the numerous advantages of Beijing in the AI field will help the city to strengthen its competitive advantage further. We expect Beijing to continue to attract new technology companies and new investment capital.

Which regions or cities do you see as the biggest sources of talent within Asia? (first part)

Options	Beijing/ North China	Shanghai/ East China	Shenzhen/ South China	China general	Tokyo/ Japan	Seoul/ South Korea	Taipei/ Taiwan
Preferences expressed	6.0	4.0	3.0	2.0	2.0	0.0	1.0
Proportion of sample citing option positively	18.2%	12.1%	9.1%	6.1%	6.1%	0.0%	3.0%

Source: Colliers International

Which regions or cities do you see as the biggest sources of talent within Asia? (continued)

Options	Hong Kong	Singapore	Philippines	India (Bangalore)	India (other)	India general	Other	Total preferences expressed
Preferences expressed	0.0	2.0	2.0	4.0	3.0	4.0	0.0	33.0
Proportion of sample citing option positively	0.0%	6.1%	6.1%	12.1%	9.1%	12.1%	0.0%	100.0%

Source: Colliers International

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