

PROGRAMMING ASIA PACIFIC TECH CITIES AS GLOBAL TECH HUBS

CBRE RESEARCH

The rise of tech companies in Asia Pacific

Ranking Asia Pacific tech cities

Growth factors

Implications for real estate

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INTRODUCTION

Rapid growth by tech companies continues to fuel office demand in Asia Pacific and spur the development of state-of-the-art headquarters buildings across the region. Tech firms accounted for 23% of total leasing activity in 2018 and have constructed over 8 million sa. ft of new headquarters space over the past two years.

This trend is also driving the formation of designated areas for the tech sector in many markets. Authorities are seeking to form agglomerations of tech companies as they strive to establish their city as the next Silicon Valley, which remains the world's leading tech hub.

Most firms place high importance upon access to talent and supportive business conditions capable of nurturing growth and innovation. Cost also remains a key criterion for tech companies seeking to establish a base of operations.

Tech companies are also increasingly seeking locations that provide eco-systems capable of accommodating best-in-class tech giants as well as start-ups and unicorns specialising in innovative new products.

This report by CBRE identifies Asia Pacific's leading tech cities by assessing 15 markets according to their business conditions, innovation environment, and cost and availability.

It also includes an in depth look at recruiting tech talent, China's up-and-coming tech hubs, and the @v20109t@BREphodian tech BPO firms.

FIGURE 1: DEFINITION OF THE TECHNOLOGY SECTOR

Traditional Tech



Companies creating, delivering, maintaining or servicing software products and services, either on license or in the cloud

IT SERVICES

Typically companies acting as IT outsourcing organisations for clients, designing and delivering bespoke IT service solutions

TELECOM

Companies specialising in the delivery of communications hardware and services, ranging from wireless and satellite companies to internet and cable providers

HARDWARE

Firms that design and build physical technology products

Source: EMEA Tech Cities 2018: CBRE Research, December 2018

New Tech



Companies whose primary means of delivering services is online. Companies can range from social media sites to search engines

E-COMMERCE

Any company whose primary or original focus is facilitating the trade of goods and services online. Companies range from online marketplaces to online shopping and delivery services.

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DIGITAL ADVERTISING / MARKETING / MEDIA

Advertising and marketing activities with a digital focus and media or publishing companies with an explicit digital element



GAMING

Companies involved in the production of games online, as apps or for consoles



FINTECH Challenger banks and start-up financial services firms

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CYBERSECURITY

Companies selling services protecting against the criminal penetration of data systems and company tech infrastructure

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THE RISE OF ASIAN TECH COMPANIES

Asia-based tech companies are expanding rapidly. In 2018, Asian companies accounted for 43% of the revenue generated by the world's top 100 tech firms¹.

Within the region, firms from Greater China produced the highest revenue, led by Chinese giants Baidu, Alibaba, and Tencent (collectively known as "BAT"), along with Taiwanese semiconductor manufacturers. Japan and Korea are also major players, boasting a number of homegrown tech firms on the Global Fortune 500.

Despite India's status as the largest outsourcing hub for international tech firms, domestic operations account for a significant share of their revenue, and there remains considerable room for overseas growth.

FIGURE 2: REVENUE OF TOP 100 GLOBAL TECH COMPANIES IN 2018 (US\$ BY MARKET)



VENTURE CAPITAL SUPPORTS EXPANSION

Venture capital has played a key role in fueling the growth of Asian tech firms. The amount of global venture capital funding for all industries reached over U\$\$200 billion in 2018², triple the amount recorded in 2014.

Asia Pacific is the fastest growing region, with venture capital fundraising quadrupling from US\$20 billion in 2014 to US\$80 billion in 2018. Large venture capital deals invariably involve investment in the technology sector, particularly in internet and software firms.

Beijing has received the largest amount of venture capital over the past five years, recording inflows of over US\$120 billion. Shanghai followed in second place with a total just half of Beijing's.

In India and other mature markets such as Singapore, Seoul, Tokyo and Sydney, the combined sum of these cities' total venture capital investment over the past five years only just over US\$50 billion.

FIGURE 3: GLOBAL VENTURE CAPITAL FUNDING BY REGION



Note: The statistics above represents the venture capital funding only Source: <MoneyTree Report Q4 2018> CBINSIGHTS, PWCs

RANKING ASIA PACIFIC TECH CITIES

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EVALUATION FRAMEWORK FOR IDENTIFYING ASIA PACIFIC TECH CITIES

CBRE conducted a study of Asia Pacific's leading tech cities by assessing 15 markets including mature gateway cities and locations where the technology sector occupies 10% or more of total office stock.

The study considers more than 20 factors under three major criteria – business conditions, innovation environment, and cost and availability.

Business conditions refers to the ease of doing business. Factors considered include government policy, availability of funding and market size and competition.

Innovation environment includes the number and scale of start-ups, the quality of education and size of the talent pool, and public and private investment in research and development (R&D).

Cost and availability are assessed according to occupancy and labour costs for a software engineer along with the availability of office buildings and tech parks.

As tech firms are often attracted to high growth markets with a large talent pool, cost is a relatively less important consideration, and was therefore assigned a weighting of 20%. Business conditions and innovation environment were each given a weighting of 40%.

The evaluation framework gives each city a total score out of 100 and then assigns them an overall rank. © 2019 CBRE, INC. FIGURE 4: ASIA PACIFIC CITIES UNDER STUDY



EVALUATION FRAMEWORK FOR IDENTIFYING ASIA PACIFIC TECH CITIES

FIGURE 5: FACTORS UNDER BUSINESS CONDITIONS, INNOVATION ENVIRONMENT, AND COST AND AVAILABILITY

Index	As	pect	Metrix
Business Conditions (40%)		Government Policy	Tax rate % of profit Business impact of rules on Foreign Direct Investment (FDI)
		Funding	Ease of access to loans Venture Capital Availability
		Competition	Intensity of local competition Country capacity to retain talent
		Market Size	Gross Domestic Product (GDP) GDP growth
Innovation Environment (40%)		Research & Development(R&D)	Company spending on R&D Quality of scientific research institutions University-industry collaboration in R&D
		Technological Readiness	Availability of latest technologies Firm-level technology absorption FDI and technology transfer
		Start-up	Scale of tech start-ups Number of tech start up in global top1000
		Talent Pool	Quality of maths and science education TMT employment Availability of scientists and engineers
Cost and Availability (20%)		Labour Cost	Cost of software engineer
		Rents	Office or tech park rents relevant to tech companies
		Availability	Office vacancy and new supply
		Tech Parks	Size of tech parks

RANKING ASIA PACIFIC TECH CITIES

The study grouped the 15 cities into three categories based on their performance according to business conditions, innovation environment, and cost and availability

Leading cities are Beijing, Bangalore, Shanghai, Singapore and Gurgaon. These cities score highly in terms of business conditions and innovation environment, as well as providing costs and availability that are supportive for business growth. These cities are preferred destinations for a wide range of traditional and new tech companies seeking to establish a base of operations in Asia Pacific.

Competent cities are Hangzhou, Shenzhen, Tokyo, Hyderabad and Seoul. These cities already host tech industry sub-sectors and demonstrate solid performance across most categories, making them attractive options for tech companies considering where to locate certain business units or operational requirements.

Supplement cities are Hong Kong, Hsinchu, Sydney, Taipei and Auckland. These cities rate favourably on certain important aspects, but their most appropriate role is to serve as hosts for specific functions to complement larger hubs elsewhere in the region.

Compared to Silicon Valley, most Asia Pacific cities in the study enjoy a competitive advantage, while some may even provide business conditions that are as, or more, attractive. However, all lag Silicon Valley in terms of innovation environment. © 2019 CBRE, INC.

FIGURE 6: RANKING OF ASIA PACIFIC TECH CITIES



Source: CBRE Research, April 2019

GROWTH FACTORS

BUSINESS CONDITIONS: SUPPORTIVE GOVERNMENT POLICIES ARE KEY

With technological innovation increasingly viewed as a requisite for competitiveness, authorities in Asia Pacific have redoubled efforts to create supportive business conditions for tech firms.

Singapore and Hong Kong both provide simple initial registration, protection for minority investors, and the enforcement of contracts, ensuring they rank among the easiest cities for doing business³.

Both cities offer the lowest corporate tax rate in Asia Pacific, but Singapore provides more favourable tax incentives and funding grants. Recent steps include raising the tax deduction on qualifying R&D expenditure from 150% to 250% without any cap imposed⁴.

While both cities are somewhat at a disadvantage because of their relatively small size, the recent announcement of the Outline Development Plan (ODP) for the Greater Bay Area (GBA) is expected to provide opportunities for Hong Kong to further develop its innovation and technology industries, while Singapore remains the gateway to ASEAN. Singapore is also the location of choice for international tech corporations seeking to establish regional headquarters. According to KPMG's Budget 2018/19 report, 59% of international tech companies in Asia Pacific set up their regional headquarters in Singapore, while just 18% opted for Hong Kong. Singapore's tax incentives, which include the adoption of tax loss relief and shortening the statutory period in which tax affairs are finalised, have attracted many multinationals. Other cities scoring highly in terms of business conditions include Tokyo, Shanghai and Bangalore, whose competitive advantage mainly derives from their large economic size. The strong financial sector in Tokyo and Shanghai allows easy access to venture capital, while Indian authorities are promoting start-ups and tech entrepreneurship to create more business-friendly hubs.

FIGURE 7: TOP FIVE MARKETS FOR BUSINESS CONDITIONS



Source: CBRE Research, April 2019

3. The World Bank Report 20184. Deloitte: Research and Development (R&D) tax measures in

Singapore – Incentivising your innovation journey

INNOVATION ENVIRONMENT: DRIVING THE GROWTH OF TECH UNICORNS

A leading indicator of an innovative environment is the number and scale of tech start-ups. CB Insights data show that Asia Pacific is home to 37% of the world's unicorn start-up companies valued at over US\$1 billion in January 2019.

China has the highest number of unicorns in Asia Pacific, with 85 in total. Most are in Beijing, which has received around US\$120 billion in funding for start-ups since 2012⁵ and is home to a large number of leading universities and the Zhongguancun technology hub.

India is home to an increasing number of tech unicorns. Here, improved access to incubator and accelerator programmes and a vast pool of skilled IT talent based in the Delhi NCR and Bangalore have supported the cultivation of new ideas.

Limited protection and respect for intellectual property rights remains a major concern in emerging Asia Pacific and may hinder the development of the tech sector. Cities making a strong public commitment to protecting intellectual property rights could further enhance the innovation, creativity and growth of unicorns in their jurisdictions.

FIGURE 8: DISTRIBUTION OF TECH UNICORNS BY REGION AND BY MARKET



Source: CB Insights, Jan 2019; CBRE Research, April 2019

INNOVATION ENVIRONMENT: ATTRACTING TOP TECH TALENT

Access to talent is a key factor tech companies consider when selecting a location. Although Asia Pacific is home to 8.4 million Science, Technology, Engineering and Mathematics (STEM) graduates, 50% of whom are in China and 30% are in India, competition for talent remains fierce.

Tech graduates in Asia Pacific are displaying a strong willingness to migrate to cities offering better living standards and brighter career prospects. Singapore and Australia are attracting increasing numbers of skilled immigrants at the expense of China and India.

However, recent changes to work visa policies in the U.S. and the value chain upgrade in the country have helped India retain more tech professionals and gradually alleviated the problem of net migration. China is also attempting to lure overseas educated talent by offering them attractive financial packages to return home.

In China, international tech companies have found it challenging to attract top talent as Chinese tech firms typically offer larger discretionary bonuses to employees and opportunities to participate in new businesses and subsidiaries that offer compelling financial rewards. Packages offered by Western tech firms are typically salary-based. As the financial and professional services industries embrace technology to transform their businesses, companies in these sectors are competing with tech firms for the same talent.

FIGURE 9: NUMBER OF STEM GRADUATES PER YEAR AND THEIR PERCENTAGE OF TOTAL GRADUATES IN TOP 5 APAC MARKETS



- Total STEM graduates
- ◆ % of STEM graduates as total graduates

Source: Various government sources, CBRE Research, April 2019

The growth of FinTech has prompted many financial institutions to recruit staff from the tech industry, with many firms adjusting their corporate culture to appeal to tech staff. Goldman Sachs and another major U.S. investment bank recently relaxed their dress codes to create a more casual office environment.

FEATURE ARTICLE 1: WINNING THE RACE FOR TECH TALENT

Arpan Barua, Senior Director, Occupier Consulting

Consulting In today's rapidly changing digital world, companies that understand their tech talent requirements and develop strategies to meet them will command a competitive edge.

At the same time, demand for tech talent is also evolving and shifting away from generalist computer science graduates towards individuals with specialist skills in areas such as machine learning and artificial intelligence.

Ensuring companies have access to the right people can make a difference far greater than real estate alone, creating significant and lasting operational savings.

Leveraging labour analytics is one way in which employers can obtain robust and evidencebased solutions to finding the right talent, right now.

April 2019 For full version, please click: <u>https://www.cbre.com/research-reports/Asia-Pacific-Major-Report---Programming-Asia-Pacific-Tech-Cities-as-Global-Tech-Hubs-April-2019#featured</u> PROGRAMMING ASIA PACIFIC CITIES AS GLOBAL TECH HUBS | CBRE RESEARCH

INNOVATION ENVIRONMENT: TOP FIVE DESTINATIONS

Bright minds and innovative ideas are required to foster innovation but cutting-edge infrastructure such as broadband width and high-quality R&D backed by a strong education system are equally as important.

Beijing is firmly established as China's R&D hub, backed by the high scores in all these categories, while Shanghai also hosts several international tech giants' R&D facilities.

Singapore, which ranks second, possesses an innovative environment for local tech entrepreneurs to test new ideas through start-ups and for international tech companies to expand.

Bangalore also performs well in this category due to its relatively easy access to venture capital compared to other Indian cities, along with its huge number of tech graduates.

As a mature market, Tokyo possesses advanced technology infrastructure, a large pool of talented engineers and world class institutional R&D. However, traditional conglomerates dominate the market, which has resulted in the absence of a start-up culture.

FIGURE 10: TOP FIVE MARKETS FOR INNOVATION ENVIRONMENT





COST AND AVAILABILITY: ASSEMBLING COST-EFFECTIVE REAL ESTATE PORTFOLIOS

Although Asia Pacific is home to several of the world's most expensive office markets, it also boasts a wide range of business and science parks that are ideally equipped to serve as cost-effective accommodation for tech companies. International tech companies are also attracted to emerging Asia by the low cost of labour.

Indian cities enjoy a cost advantage over other major markets, with labour costs that are the lowest in the region. Bangalore, which already provides ample space for tech firms to house their operations, has more than 33 million sq. ft. of office space due for completion before 2021. FEATURE ARTICLE 2:

INDIAN TECH CITIES – EVOLVING BEYOND BPO

Ram Chandnani, Managing Director, Advisory & Transaction (A&T) Services, India

India's deep pool of well-educated Englishspeaking manpower and relatively lower cost of salaries and operations have firmly established the country as a leading Technology, Business & Knowledge Process Outsourcing (BPO/KPO) market for Western multinational corporations seeking to subcontract their office functions.

However, recent years have seen a shift away from the traditional focus of customer and technical support, data processing and help desk services, as India evolves beyond providing basic labour arbitrage and commoditised outsourcing.

For full version, please click: <u>https://www.cbre.com/research-reports/Asia-Pacific-Major-Report---Programming-Asia-Pacific-Tech-Cities-as-Global-Tech-Hubs-April-2019#featured</u>

FIGURE 11: OCCUPANCY COSTS, LABOUR COSTS AND TECH PARK AVAILABILITY IN ASIA PACIFIC Labour cost ('000 US\$)



Note: The bubble size represents tech park size. Tokyo, Sydney and Auckland have no dedicated tech park Labour cost represents the salary of a software engineer per year (in USD) Source: CBRE Research, April 2019

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COST AND AVAILABILITY: ASSEMBLING COST-EFFECTIVE REAL ESTATE PORTFOLIOS

China has an abundant supply of new office space due for completion in the next three years along with several major existing tech parks. The recent introduction of a flexible industrial land policy is expected to spur the development of additional tech parks.

Seoul and Singapore host the largest tech parks among mature markets but Pangyo Techno Valley in the former is close to full occupancy. In the latter, the government is planning new tech parks and high specification space around the Changi, Woodland North and Jurong districts to support the growth of the tech sector.

While tech parks are an attractive option from a cost and availability perspective, CBRE advises tech firms to carefully consider their use of out-of-town campus sites as millennials in Asia Pacific are typically only willing to travel a maximum of 30 minutes to work NA'S UP-AND-COMING TECH HUBS Virginia Huang, Head of A&T Services, Greater Asi@Rina strives to establish itself as a technological powerhouse, many tier II cities are upgrading their

powerhouse, many tier II cities are upgrading their value chains.

CBRE has identified several emerging tech cities in Chengdu, Nanjing, Wuhan and Xian, where there has been significant investment in research and technological development. These emerging tech cities each possess their own unique strengths and areas of expertise and should therefore not be viewed as competitors.

For full version, please click: <u>https://www.cbre.com/research-reports/Asia-Pacific-Major-Report---Programming-Asia-Pacific-Tech-Hubs-April-2019</u> Tech-Hubs-April-2019 © 2019 CBRE, INC.





Source: CBRE Research, April 2019

LEADING TECH CITIES

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Beijing (#1)

Overall summary:

As China's technology hub, Beijing is a major office destination for tech firms. Strong technical and innovation recourses, preferential incentive policies as well as clustering of famous universities are driving strong demand from the tech sector. Zhongguancun and Wangjing are two major headquarters clusters for tech giants, unicorns and start-up firms. However, due to limited spaces available for lease and the lack of land available for commercial development in these two submarkets, tech occupiers have begun to explore decentralised areas and business parks.



MAJOR SUBMARKETS FOR TECH COMPANIES AND KEY OFFICE STATISTICS

Zhongguancun Near famous universities that have

intensive talent and R&D resources Q4 2018 Vacancy: 0.2% Face Rent Range: RMB 230 - 440 sq. m./month New Supply (2019 -21): 0 sq. m.

Wanjing:

Gaining popularity from tech firms due to its good accessibility, ample new supply and competitive rents Q4 2018 Vacancy: 10.8% Face Rent Range: RMB 210 – 380 sq. m./month New Supply (2019 -21): 36,000 sq. m.



TOP TECH COMPANIES AND THEIR HEADQUARTERS

Sina



Badiu Zhongguancun Size: 300,000 sq. m. Zhongguancun Size: 130,000 sq. m.

Global software company Zhongguancun Size: 150,000 sq. m.

JD.com **Beijing Economic** Technological Development Area Size: 280,000 sq. m.

MAJOR TRANSACTIONS IN 2018

Beijing Missfresh E-commerce Co. 15,000 sq. m. Expansion Ronsin Technology Center	Sense Time 10,500 sq. m. Expansion Ideal International Plaza	ByteDance 9,600 sq. m. Relocation International Financial Center	Beijing Snowball Technology 5,000 sq. m. Relocation Ronsin Technology Center
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Source: CBRE Research, April 2019

Bangalore (#2)

Overall summary:

Banaalore is known as India's start-up capital as it is home to over 30% of the country's start-ups⁷. The state contributes significantly to the country's tech sector, supported by policies to promote start-ups and tech entrepreneurship. At 155 million sq. ft., the city has the largest office stock in the country. Bangalore is also home to one of India's best tech talent pools, thanks to the presence of leading institutions such as the Indian Institute of Information Technology (IIIT), the Indian

Institute of Management (IIM) and the Indian Institute of Science (IISc).

7. Economic Survey of Karnataka, 2017-18



Note: Higher score on rent and labour cost means cheaper costs

TOP TECH COMPANIES AND THEIR HEADQUARTERS

IBM



Infosvs South Bangalore

Accenture South Bangalore CBD

Wipro Peripheral Business District

MAJOR TRANSACTIONS IN 2018



MAJOR SUBMARKETS FOR TECH COMPANIES AND KEY OFFICE STATISTICS

Extended Business District (Inner Ring Road, Old Madras Road):

This micromarket houses quality projects by leading developers and enjoys close proximity to the city centre as well as good metro connectivity Q4 2018 Vacancy: 4.5% Rent: INR 112 sq. ft./month New supply (2019 - 21): 3.7 million sq. ft.

Outer Rina Road (Devarabeesanahalli, Marathahalli)

Regarded as the original hub for large tech parks, this micromarket boasts several quality projects by leading developers and an excellent road network Q4 2018 Vacancy: 5.8% Rent: INR 80 - 83 sg. ft./month New supply (2019 - 21): 8.9 million sq. ft.

Peripheral Business District (Whitefield and Electronic City):

This micromarket provides multiple high quality options for large scale expansion at the most cost effective prices in the city Q4 2018 Vacancy: 8.9% Rent: INR 46 - 50 sq. ft./month New supply (2019 - 21): 10.6 million sq. ft.



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Shanghai (#3)



Source: CBRE Research, April 2019

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Singapore (#4)

Overall summary: The combination of a sophisticated IT infrastructure, pro-business climate, stringent intellectual property laws and savvy local government has cemented Singapore's status as a leading tech city in Asia. As of 2018, 80 of the world's top 100 tech firms had established a presence in Singapore, underlining its status as the gateway to Southeast Asia. The local tech scene continues to grow at a rapid pace, driven by a flourishing startup community focusing on areas such as Internet of Things (IoT), autonomous driving and big data.



TOP TECH COMPANIES AND THEIR HEADQUARTERS



Global Search Engine Mapletree **Business** City Size: 680,000 sq. ft

Media Firm Size: 300,000 sq. ft

Leading Mobile Phone & App Firm Company One-north CBD Size: 200,000 sq. ft. Size: 125,000 sq. ft

MAJOR TRANSACTIONS IN 2018

CBD

Zendesk 34,000 sg. ft.	Netflix 36,000 sq. ft.	Transportation Network Company 20.000 sg. ft	HR-related Company
Relocation & Expansion	Relocation & Expansion	Relocation	Relocation
Marina One	Marina One	Fraser Tower	Ocean Financial



One-north/Mapletree Business City City fringe cluster focusing on R&D and high tech Q4 2018 Vacancy: <5% Rent: S\$4.30-6.60 sq. ft. /month New supply (2019-21): 0.53 million sq. ft.

Core CBD:

Internationally renowned financial and business hub Q4 2018 Vacancy: 5.4% Grade A Rent: S\$9.40–12.40 sq. ft. /month New supply (2019-21): 1.82 million sq. ft.



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Gurgaon (#5)

Overall summary: Gurgaon has evolved as a regional pivot in North India for the tech industry. The 'millennium city' has become a leading destination for prominent global and domestic corporates looking to set up backoffice/front-office operations. Owing to its proximity to the national capital as well as its international airport, the city boasts a sizeable software talent pool. The size and quality of its office stock, along with government incentives to the tech sector, have ensured the city appears on investor's radar.



TOP TECH COMPANIES AND THEIR HEADQUARTERS



Accenture Old Guragon

Global Search Engine TCS NH-8 Size: 1,519,000 sq. ft. Size: 1,139,500 sq. ft. Road

Southern Peripheral Size: 1,100,000 sq. ft.

MAJOR TRANSACTIONS IN 2018

Admiral Technology	IBM	ZS Technologies	Cognizant
60,000 sq. ft.	50,000 sq. ft.	50,000 sq. ft.	42,000 sq. ft.
New Lease	Expansion	Expansion	Expansion
Candor Techspace Sector 48	ASF Insignia	World Tech Park	DLF Cyber SEZ

IBM Gurgaon-Faridabad Road Size: 745,300 sq. ft.



Source: CBRE Research, April 2019

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IMPLICATIONS FOR REAL ESTATE

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Tech sector growth in Silicon Valley has powered a boom in commercial real estate rents but there is little evidence of any such linkage in Asia Pacific.

Office rental growth in the leading cities is projected to be steady from 2019-2021. Gains are expected to be led by Bangalore, where tech sector expansion is set to remain strong.

Beijing has recently seen an increasing number of unicorns and start-ups competing for high quality premium office space but the availability of other options means rents have only risen at a steady pace.

While the proportion of tech sector demand is steadily growing in Singapore, Seoul, Shanghai and Tokyo, it remains under 15% of total leasing volume as these cities play host to a wide range of other industries.

FIGURE 13: GROWTH IN OCCUPANCY COSTS AND TECH CITY RANKING IN ASIA PACIFIC



Source: CBRE Research, April 2019

CBRE's study found that unlike Silicon Valley, which provides a healthy and well-rounded environment for tech sector development and growth, individual cities in Asia possess distinct strengths and weaknesses.

This reflects the multi-nodal approach adopted by tech firms in Asia Pacific, which tend to select locations according to their suitability for certain business functions and units.

Tier II cities in India and China are suitable for tech firms seeking to engage in cost saving and outsourcing due their low occupancy costs, affordable labour and availability of new office supply suitable for tech firms.

R&D operations should be placed in major cities such as Beijing, Shanghai, Tokyo, Seoul and Singapore, which offer high quality universities, research institutions and a large number of startups.

Mature gateway cities including Hong Kong, Tokyo, Singapore and Sydney are best suited to hosting marketing and sales functions and data centres due to their business-friendly tax policies, access to funding and advanced infrastructure.

FIGURE 14: STRENGTHS OF INDIVIDUAL TECH HUBS IN ASIA PACIFIC



Source: CBRE Research, April 2019

- Good quality of scientific research institution
- Solid research development
- Lots of fast growing start-ups
- Competitive talent



- Advanced technology with well established internet
- network Stable electricity
- Penetrate other markets



Low rental cost

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- Affordable labor cost
- Available of new supply



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