



Technology innovation hubs

What technology company executives and venture capitalists should understand about selecting and investing in global technology centers

New cities rise in the rankings

Singapore takes the top spot

KPMG’s annual survey of global technology leaders reveals which cities, in addition to Silicon Valley/San Francisco, will be leading technology innovation hubs over the next four years. Several cities took major steps forward in this edition.

- Singapore**, ranked seventh last year, took the top spot this year in the global rankings and offers an advanced IT infrastructure, strong government support and IP protection laws, and a deep pool of talent. As a start to economic transformation, the government-sponsored Smart Nation program has been progressing since 2014, and the National Artificial Intelligence Strategy was announced in November 2019.
- Tel Aviv**, fifteenth last year but often ranked higher in previous years, rose to third place. Israel’s experience in artificial intelligence and mobility technology is in high demand globally.

—**Bengaluru** was eighteenth a year ago but moved into the top ten, taking ninth place. Bengaluru and Mumbai (sixteenth on the list) benefit from India’s continued rise in the Global Innovation Index, improving from 81 to 52 between 2015 and 2019.

These cities all have strong innovation ecosystems but may also have benefited from being outside the orbit of the technology cold war between the U.S. and China.

Cities that were outside the top 20 last year but made this year’s list include Chicago, Frankfurt, Mumbai, Shenzhen, Montreal, and Dallas. Cities that were in the top 20 last year but dropped out include Washington, DC; Paris; Amsterdam; Barcelona; and Los Angeles.

The rest of the top 20 is populated by global stalwarts such as London, Tokyo, Shanghai, Beijing, Seoul, Hong Kong, Boston, Berlin, and Taipei. New York, last year’s number one after riding a wave of investment announcements from Google, Amazon, and Apple, placed number five.

Leading technology innovation hubs outside Silicon Valley/San Francisco over the next four years



Partial list of cities shown. Source: KPMG Technology Industry Innovation Survey 2020

© 2020 KPMG LLP, a Delaware limited liability partnership and the U.S. member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative (“KPMG International”), a Swiss entity. All rights reserved.

Silicon Valley's bright future

U.S. tech stance helping the Valley

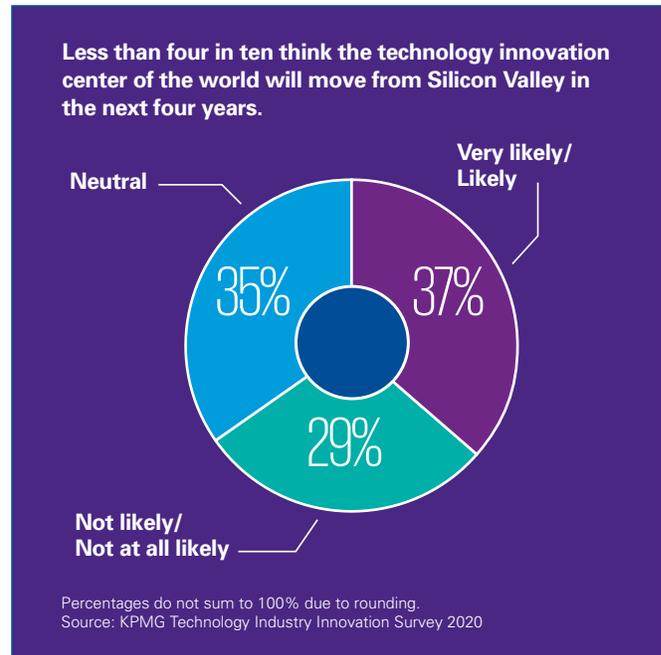
Global technology executives are more confident this year that Silicon Valley will retain its position as the technology innovation center of the world. Only 37 percent said it's likely that the tech center of the world will move from Silicon Valley in the next four years. Last year, 58 percent believed it would move.

Why the change of opinion? One explanation is that survey respondents are projecting the result of continued U.S. efforts to protect and bolster critical emerging technologies. As tariffs are levied, trade deals renegotiated, foreign acquisitions blocked, and sanctions implemented in the name of national security, technology and intellectual property (IP) are not flowing across borders as freely as in the past. By keeping more proprietary knowledge and IP within the U.S., it will be even harder for a city outside the U.S. to overtake Silicon Valley as the innovation center in the next four years.

Microhubs gain traction

Another factor helping Silicon Valley maintain its leadership position is the growing trend of technology microhubs. Instead of trying to directly compete and take share away from the global centers, many smaller cities are now catering to a narrow scope of industries or technologies. They are doing this by leaning into their lower cost of living, differentiated quality of life, and specialized talent pools. The goal is to still capture some of the economic benefits that an innovation economy can deliver. Examples include:

- Huntsville, Alabama (U.S.)** has carved out a niche serving the aerospace and defense industries.
- Eindhoven, Netherlands** is recognized as a hub for hardware and electronics design.
- Hsinchu, Taiwan** has become a center for semiconductor manufacturing and computer technology.



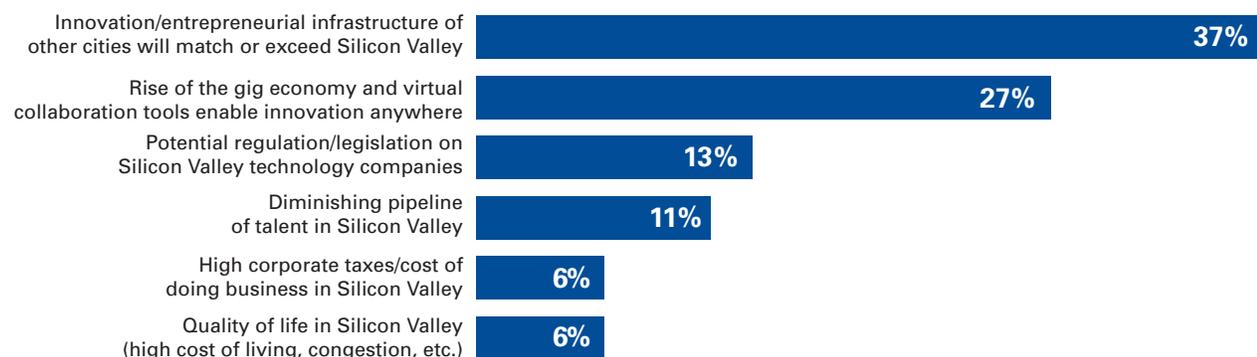
Why leave Silicon Valley?

Why do 37 percent of tech leaders say it's likely the innovation center of the world will move from Silicon Valley in the next four years? Their main reasons are that other cities' infrastructures are catching up with Silicon Valley and collaboration technologies give people more flexibility to work when and where they want.

Another reason is the concern over a shrinking talent pipeline. There was negative population migration in Santa Clara and San Mateo counties between 2016 and 2019, with over 70 percent moving outside the Bay Area.¹ A lesser cited reason was cost and quality of life. Median home prices in Silicon Valley are the highest in the nation at over \$1 million and more than 100,000 employees commute more than three hours daily.¹

¹ 2020 Silicon Valley Index (Joint Venture Silicon Valley/Institute for Regional Studies)

Reasons the technology innovation center of the world will move from Silicon Valley in the next four years



Source: KPMG Technology Industry Innovation Survey 2020

© 2020 KPMG LLP, a Delaware limited liability partnership and the U.S. member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

Key factors for a tech hub

Infrastructure is most important

There are many factors that must work together to create an innovation center that can compete on a global scale. But are certain ones more important than the others? Technology company leaders ranked these as the most important factors that enable a city to become a technology innovation center:

1	Modern infrastructure, including high-speed bandwidth	33%
2	Urban locale that attracts young professionals	29%
3	At least one research-intensive university	27%
4	Available investment funding	26%
5	A pipeline of skilled talent	24%
6	Favorable regulatory environment	23%
7 (tie)	A history of successful startup exits	20%
7 (tie)	Positive demographic growth trends	20%
7 (tie)	Supporting ecosystem (banks, law firms, accounting firms, etc.)	20%
10 (tie)	Mentoring and access to innovation network (other CEOs, entrepreneurs, etc.)	18%
10 (tie)	An established base of tech parks or accelerators	18%
12	Generous tax and other government incentives	16%

Multiple responses allowed; therefore, percentages do not sum to 100%.
Source: KPMG Technology Industry Innovation Survey 2020

While many factors were rated closely, the two ends of the list stand out. For this question as well, infrastructure was somewhat surprisingly ranked as the most important factor

above all others. An urban locale that's attractive to younger professionals ranked second. Tax and other government incentives ranking near the bottom was also interesting since the prevailing assumption is that businesses prioritize incentives when deciding on where to locate. Stories on what incentives governments are willing to offer to entice new business investment often garner heavy attention and headlines.

U.S. remains disruption leader

India climbs in the rankings

Our survey also explored which countries show the most promise for developing globally impactful disruptive technologies. The U.S. and China have been ranked first and second, respectively, for the past several years. This year, however, the U.S. increased its lead over China (28 percent vs. 13 percent) compared to last year (23 percent vs. 17 percent).

We believe that survey respondents perceive that the current U.S. stance on technology and IP – especially regarding China (e.g., tariffs, restricting China-owned acquisitions, company sanctions) – means that China must now spend more time and resources to develop its own domestic innovation ecosystem. It will take time to accomplish this and achieve parity with the U.S.

After a drop in the rankings last year, India surged back up to tie China for the second position. With the potential innovation headwinds China is now facing, and U.S. policies encouraging more tech professionals to return to or remain in India, the future bodes well for Indian innovation. This is bolstered further by the urbanization and younger demographic trends that are moving in the right direction, along with the increase in venture capital that India has seen in the last two years.

Further perspective on how well countries foster and adapt to technology innovation can be gained by reviewing the rankings from additional publicly available indices.

Country	KPMG Technology Industry Innovation Survey 2020*	World Economic Forum Global Competitiveness Index 2019	Bloomberg Innovation Index 2019	Global Innovation Index 2019	KPMG Change Readiness Index 2019
United States	1 / 28%	2	8	3	13
China	2 (tie) / 13%	28	16	14	28
India	2 (tie) / 13%	68	54	52	53
Japan	4 (tie) / 8%	6	9	15	18
United Kingdom	4 (tie) / 8%	9	18	5	8
Israel	6 / 6%	20	5	10	25
Taiwan	7 (tie) / 4%	12	NR	NR	17
Germany	7 (tie) / 4%	7	2	9	7
Singapore	7 (tie) / 4%	1	6	8	2
Canada	10 / 3%	14	20	17	16

*Countries that show the most promise for developing globally impactful disruptive technologies.

Partial list shown. Source: KPMG Technology Industry Innovation Survey 2020

© 2020 KPMG LLP, a Delaware limited liability partnership and the U.S. member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

Next steps for companies

Companies should assess the local environment when looking to acquire a company, enter into a joint venture, or build a new HQ or innovation center:

- Is the infrastructure and master plan (including roads, mass transit, wireless bandwidth, green spaces, mixed-use development) conducive to long-term population growth and an improving quality of life?
- Is the locale attractive to Millennial and Generation Z workers, creating a pipeline of technology-savvy talent?
- Are the long-term demographic projections favorable (population growth, influx of tech jobs)?
- Does the new location have at least one research university or a system of established tech companies or innovation zones?
- Are both public and private investment funding available?
- Is the regulatory and tax environment favorable to technology companies?
- Is the prevalent culture of the new locale compatible with the overall company culture?
- Is the cost structure of the new locale consistent with the overall corporate plan?

How KPMG can help

KPMG's Global Strategy Group

KPMG's Global Strategy Group works with private, public, and not-for-profit organizations to develop and implement strategy from "innovation to results," helping clients achieve their goals and objectives. KPMG's Global Strategy professionals develop insights and ideas to address organizational challenges such as growth, operating strategy, cost, deals, and transformation. Learn more at kpmg.com/strategy.

KPMG's Deal Advisory

KPMG's Deal Advisory professionals help you prepare your organization to take advantage of opportunities in the marketplace. We have structured our approach through an investor's lens to help ensure we are focused on the characteristics that help our clients identify, evaluate, and successfully implement growth strategies. Our team of professionals offers technical and industry-focused experience to help with the execution of mergers, acquisitions, integrations, restructurings, disposals, financings, and IPOs. Whether you are buying companies, selling businesses, restructuring, refinancing, or raising capital, our team can assist you in selecting the right path forward. Learn more at kpmg.com/deal.

About the research

The 2020 KPMG Technology Industry Innovation Survey, now in its eighth year, included responses from more than 800 global leaders in the technology industry. Twelve countries were represented and 54 percent of the respondents were C-level executives. The online survey was conducted from December 2019 to January 2020.

Contact



Tim Zanni

Global and U.S. Technology
Sector Leader
KPMG LLP (U.S.)
tjzanni@kpmg.com

Some or all of the services described herein may not be permissible for KPMG audit clients and their affiliates and related entities.

The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act upon such information without appropriate professional advice after a thorough examination of the particular situation.

© 2020 KPMG LLP, a Delaware limited liability partnership and the U.S. member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved. MGT8512

The KPMG name and logo are registered trademarks or trademarks of KPMG International.

kpmg.com/socialmedia

