# The Changing Landscape of Disruptive Technologies

PART 1 OF 4

## Global Technology Innovation Hubs

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# Foreword

**KPMG's annual Technology Innovation publication, *The Changing Landscape of Disruptive Technologies,* provides an outlook of emerging technology trends on a global scale, including insights from over 800 leading technology industry visionaries ranging from serial startup entrepreneurs to Fortune 100 tech industry leaders and venture capitalists.**

The publication is segmented into four parts, featuring the following topics:

- Global technology innovation hubs
- Barriers to commercialize emerging technologies
- Disruptive technology trends: consumer and enterprise markets
- Tech innovation management and startup perspectives

In this segment, ***Global Technology Innovation Hubs***, we showcase 15 country perspectives across the Americas, EMEA and ASPAC, and rank the countries and regions competing to commercialize innovation and become the global hubs of the technology industry.

A wide range of countries continue to invest in the creation of ecosystems and offer government incentives to attract companies driving technology innovation. Some countries are finding success in facilitating the next wave of innovation, while others continue to fight macroeconomic and infrastructure challenges.

Silicon Valley's ecosystem and culture remains the model for every city around the world aspiring to become a tech innovation leader. We continue to see the Bay Area as the mecca for tech innovation and the creation of new business models.

And more than ever, companies in other industries, including automotive, finance, medical and others, are shifting operations to Silicon Valley to collaborate with tech leaders and learn how to be nimble and disruptive.

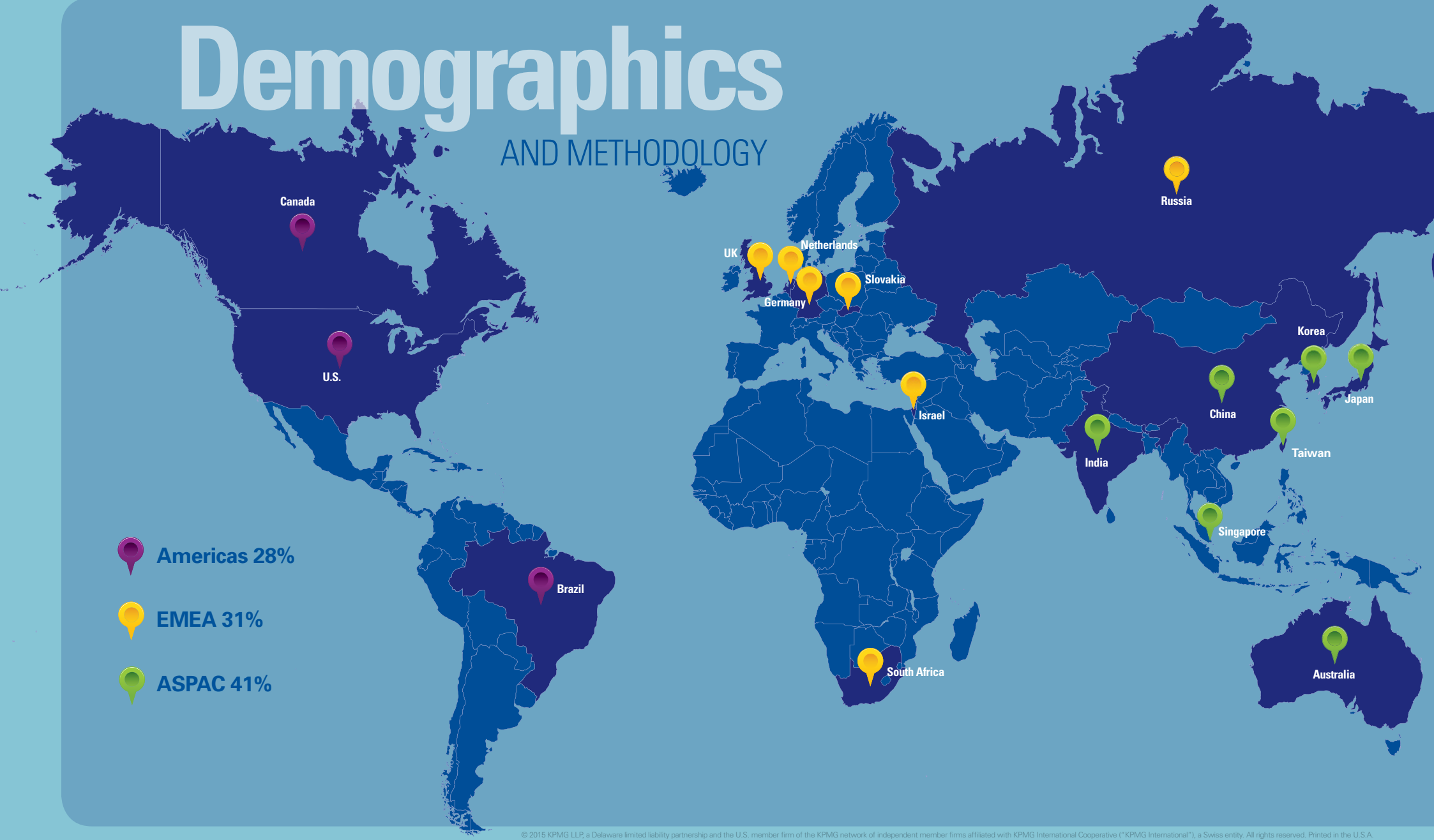
We hope you find this publication insightful, and we welcome feedback and suggestions for the next edition.

**Gary Matuszak**
Global and U.S. Chair,
Technology, Media and
Telecommunications, KPMG

**Richard Hanley**
Advisory Sector Leader,
Technology, Media and
Telecommunications,
KPMG LLP (U.S.)

# Demographics

## AND METHODOLOGY



## METHODOLOGY

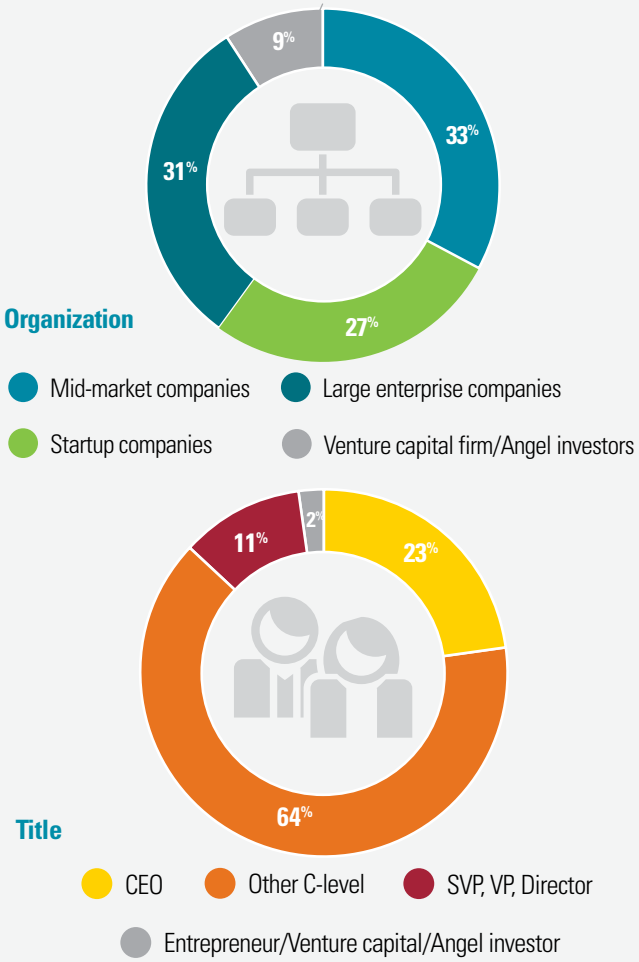
This year's global survey included 832 technology industry leaders. The web-based survey was conducted August through September 2015.

## DEMOGRAPHICS

The survey spanned the Americas, EMEA and Asia-Pacific markets. Seventeen countries were represented. The U.S. recorded the most responses but that only amounted to 16 percent of the total, followed by China at roughly 11 percent.

- **Total respondents: 832 technology industry leaders**
- **Most (87 percent) are C-level**
- **Good representation across startups, mid-market and large enterprises**

**Q: Which of the following best describes your organization; your title?**




Note: not all percentages sum to 100% either due to rounding or because multiple responses were allowed.

Source: KPMG Technology Innovation Survey 2015

THE GLOBAL RISE OF TECHNOLOGY INNOVATION

# Leading innovation hubs

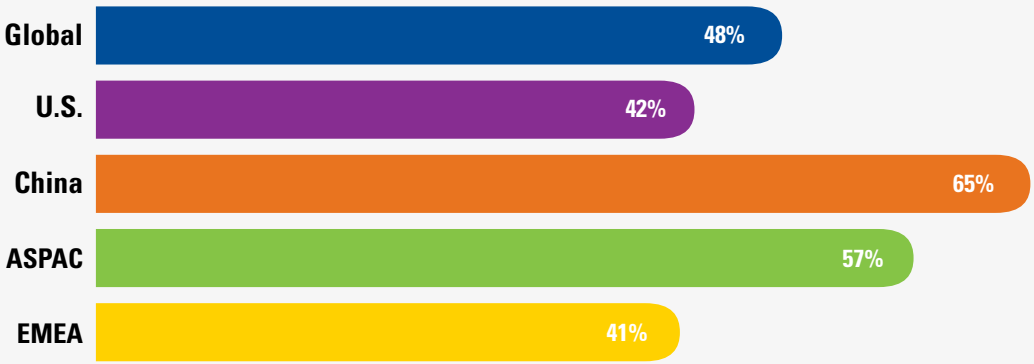
# THE RISE OF TECH VISIONARIES WORLDWIDE

## A GLOBAL TECH INNOVATION ECOSYSTEM

Nearly half of those surveyed globally predict Silicon Valley will lose its status as the world's top tech center within the next four years. This finding underscores the steady rise of regional hubs for innovation and venture investment, and the gradual decline of the Bay Area's position in this poll. That decline is more pronounced in China, where 65 percent of the respondents see Silicon Valley fading, and in the Asia region, where 57 percent project a decline in top-tier status for the Bay Area.

In the United States, we find similar expectations as a growing number of U.S. cities compete to develop innovation hubs. In a notable indicator of change, 42 percent of those polled in the U.S. today believe Silicon Valley will lose its stature, compared with 22 percent in last year's findings.

**Q: What is the likelihood that the technology innovation center of the world will move from Silicon Valley to another country in the next four years?***




*Percentage answering 4-5 on a 1-5 likelihood scale

Source: KPMG Technology Innovation Survey 2015

"The global opportunities for value creation from disruptive technologies continues to grow. Silicon Valley is positioned to be the tech innovation center of the world for years to come fueled by its connectivity to emerging tech hubs around the world."

– **Gary Matuszak**, Global and U.S. Chair, Technology, Media and Telecommunications, KPMG

# MARKETS LEADING TECH BREAKTHROUGHS

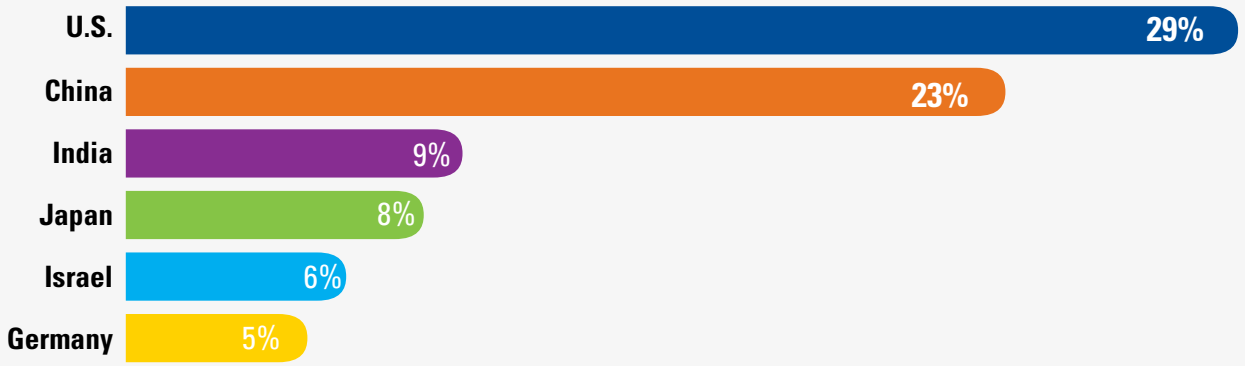
## THE U.S. CONTINUES TO HAVE A SLIGHT EDGE OVER CHINA

The rate of technology innovation development continues to increase exponentially across the globe as new tech visionaries emerge from all corners of the world. Consistent with last year's survey results, the United States and China reign as the top innovation leaders, with other counties competing to develop tech hubs of their own.

The tech leadership status of the U.S. has been slipping over time as more countries invest in domestic innovation ecosystems and promote locally developed products and services. Two years ago, 37 percent of those polled globally said the U.S. was the leader in technology breakthroughs.

China's status, as a tech innovator, is not losing momentum given the quick development of customized products and services for the tech-savvy, always-on digital Chinese consumer. India's innovation is on the rise, moving into third place, up from fifth last year, with many startup models being implemented to cater to India's mobile-first generation. Tech-centric Japan had a strong showing in the survey results as well, consistent with last year's findings.

**Q: Which country shows the most promise for disruptive technology breakthroughs that will have a global impact?**




Countries with percentages below 5% not shown.

Source: KPMG Technology Innovation Survey 2015

> "Tech innovation in China and Japan is powered by the sophistication of the consumer, especially on mobile devices. The consumer and enterprise adoption of emerging technologies is interrelated. Continued momentum in mobile, data and analytics, development and commercialization of artificial intelligence, Internet of Things and robotics will be led by innovative companies based in ASPAC."
>
> – **Egidio Zarrella**, Clients and Innovation Partner, KPMG in China

## TECH INNOVATION AGENDAS GAIN MOMENTUM IN MANY COUNTRIES

A wide range of country initiatives continue to enable tech innovation and attract entrepreneurs.

- In the United States, more cities are competing to supplant Silicon Valley as a tech hub as companies compete to develop disruptive, cutting-edge innovations in IoT, data and analytics, cloud, and mobile technologies. From the tech sector itself to industries including finance, retail, healthcare, transportation and others, investment and innovation remain strong.
- In China, government/industry collaboration and massive addressable markets are combining to foster innovation in areas such as e-commerce, artificial intelligence, and other sectors as more companies work to develop innovations for domestic markets, as well as to hone China's traditional high-tech manufacturing strength.
- In India, innovation is taking on a local flavor as the country's emphasis shifts from serving global markets to expanding domestic consumer and enterprise markets. Government investments are helping to drive innovative gains in mobile Internet and communications, as well as financial services.
- Under Industry 4.0, German companies rely on big data technology to analyze volumes of information and use artificial intelligence to find the most efficient way to manufacture. This combination helps manufacturers make small amounts of many different products that can lead to the same level of efficiency as mass production.
- Israeli tech companies, backed by a strong VC sector, government support, and a talented, diverse workforce, continue to develop innovations in software, security, biotech and other industries.
- Japan, long known for its hardware innovation, is deepening its strength with expertise in robotics, software and communications to develop not only innovative products, but also leading-edge manufacturing prowess to bring these products to global markets more rapidly and efficiently.

> "The role of technology is becoming increasingly more important in accelerating economic growth in emerging and frontier markets. From Korea's focus on moving to an "ultra-connected" society to India's 'Digital India' initiative, technology is addressing development challenges by changing the way organizations engage and interact with people."
>
> – **Mark Barnes**, Global Lead Partner, High Growth Markets, KPMG LLP (U.S.)

# WHERE ARE THE TALENT AND CAPITAL?

## IMPORTANCE OF FACTORS ENABLING TECHNOLOGY INNOVATION

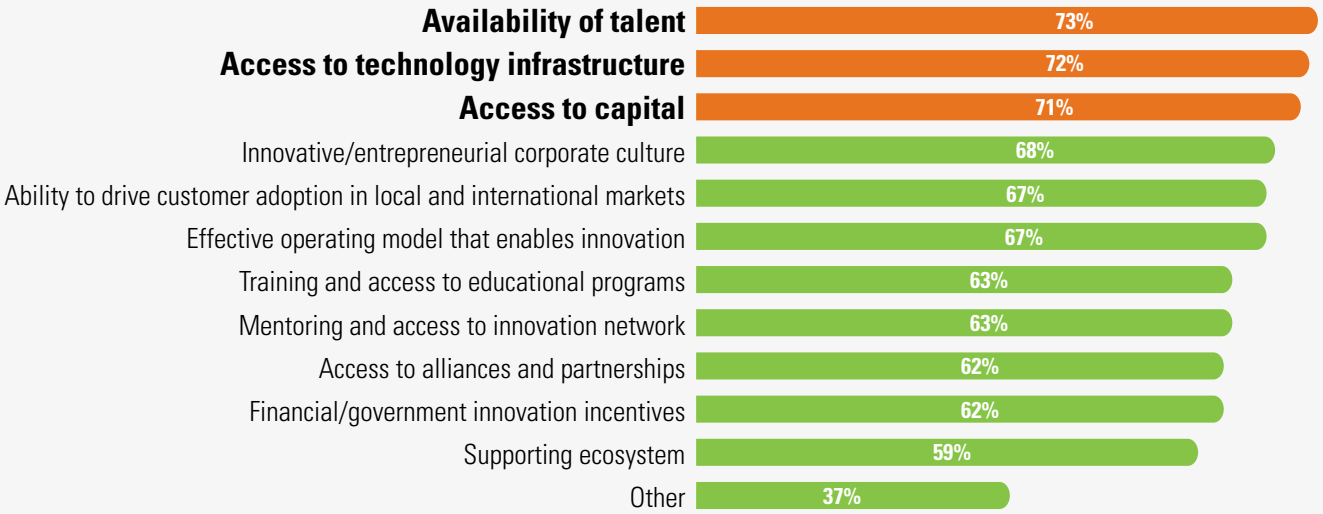
Availability of talent was scored as a leading factor in promoting innovation, followed closely by technology infrastructure. Access to capital also had high scores.

An innovative entrepreneurial culture emerged in this year's findings as another critical element. Building and maintaining an ecosystem that prioritizes innovation and accepts failure is ingrained in Silicon Valley's culture; this is one of the advantages that sets the Valley apart.

In a marked difference this year, China ranked several related factors – talent, capital, infrastructure and corporate culture – much higher than most other geographies, with the exception of the Asia-Pacific region, which also scored these contributors higher.

China respondents also pointed to customer adoption, mentoring and an effective operating model as extremely important in fostering innovation, higher than did those polled globally. This is no doubt a reflection of China's ambition to become an innovation leader. ●

**Q: How would you rate the importance of the following factors in enabling technology innovation?***




*Global results; percent who selected 4 or 5 on a 1-5 importance scale

Source: KPMG Technology Innovation Survey 2015

"The mobile-first generation has given China and the rest of Asia a unique perspective, and ideas are flowing from there such as messaging platforms as the primary UI for transactions as well as communications. And of course, there's the example of South Korea pioneering the freemium model with gaming. There are many areas where Silicon Valley leads, but great ideas are not native to Silicon Valley. Ideas and talent travel very quickly."

– **Brendon Kim**, Samsung, Head of Strategic Investments Group, Global Innovations Center

## Q: How would you rate the importance of the following factors in enabling technology innovation?*

| Importance of factors that enable innovation | Australia | Brazil | Canada | China | Germany | India | Israel | Japan | Korea | Netherlands | Russia | Singapore | S. Africa | Taiwan | UK | U.S. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Availability of talent** | 63% | **85%** | 73% | 88% | 52% | 80% | 57% | **63%** | 75% | **67%** | 52% | 71% | **83%** | **80%** | 70% | 74% |
| **Access to technology infrastructure** | 60% | 79% | 76% | 82% | **68%** | 82% | **63%** | **63%** | **81%** | 55% | **61%** | **74%** | 71% | 73% | **75%** | 70% |
| **Access to capital** | 60% | 79% | 67% | 86% | 65% | 79% | 52% | 47% | 70% | 55% | **61%** | 68% | 77% | **80%** | 67% | **78%** |
| Innovative/entrepreneurial corporate culture | 57% | 62% | **78%** | 86% | 48% | 74% | 50% | 57% | 69% | 52% | 55% | 65% | 74% | 67% | **75%** | 73% |
| Effective operating model that enables innovation | **70%** | 64% | 70% | 85% | 48% | 69% | 55% | 43% | 75% | 64% | 58% | 71% | 63% | 73% | 67% | 66% |
| Ability to drive customer adoption in local and international markets | 57% | 62% | 77% | 87% | 61% | 82% | 52% | 43% | 73% | 45% | 55% | 65% | 74% | 73% | 67% | 61% |
| Training and access to educational programs | 67% | 67% | 65% | 73% | 39% | **84%** | 53% | 53% | 52% | 55% | 55% | 61% | 74% | 67% | 63% | 64% |
| Mentoring and access to innovation network | 63% | 56% | 63% | **90%** | 45% | **84%** | 45% | 43% | 67% | 45% | 42% | 55% | 74% | 63% | 56% | 61% |
| Access to alliances and partnerships | 67% | 62% | 67% | 86% | 61% | 79% | 42% | 50% | 70% | 39% | 42% | 58% | 54% | 57% | 54% | 61% |
| Financial /government innovation incentives | 60% | 72% | 62% | 77% | 48% | 82% | 50% | 40% | 59% | 42% | 58% | 45% | 74% | 57% | 65% | 59% |
| Supporting ecosystem | 57% | 56% | 59% | 80% | 55% | 75% | 48% | 43% | 52% | 36% | 52% | 55% | 66% | 77% | 60% | 56% |
| Other | 30% | 27% | 19% | 59% | 30% | 38% | 35% | 45% | 42% | 30% | 56% | 11% | 39% | 57% | 29% | 39% |

*Results by country; percent who selected 4 or 5 on a 1-5 importance scale; sorting based on global results

Source: KPMG Technology Innovation Survey 2015

# TOP CITIES TO BECOME LEADING TECH HUBS – OTHER THAN SILICON VALLEY

## TOKYO BUMPS SHANGHAI FROM LEAD

As multiple Silicon Valleys spring up around the world, tech executives believe Tokyo is expected to take the lead as a top tech hub in the near future. Japan has a long tradition of hardware innovation that is shifting to net connectivity, robotics and software-designed business platforms that enhance the value of the country's hardware technology expertise and assets.

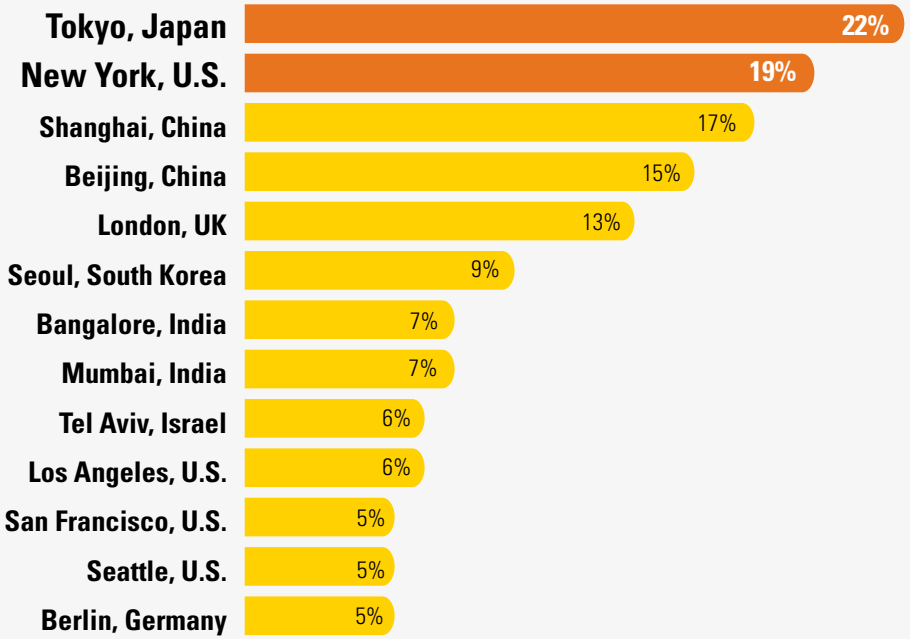
China continues to have a strong showing, with Shanghai and Beijing both ranked high. India also shines with two cities, Mumbai and Bangalore.

The results show a broadening number of U.S. cities on the climb, including two West Coast cities that are newcomers to this list: Los Angeles and Seattle.

In EMEA, it's not surprising that London, with its fintech push, and Tel Aviv, with biotech and cybersecurity strengths, continue to be named as tomorrow's tech hub leaders.

The findings demonstrate that innovation, no longer dominated by any one market, is happening around the world.

**Q: In addition to Silicon Valley, which three cities will be seen as leading technology innovation hubs over the next four years?**




Countries with percentages below 5% not shown.

Source: KPMG Technology Innovation Survey 2015

# Country perspectives

# COUNTRY PERSPECTIVES

## AUSTRALIA – Technology Presents High Potential

Well advanced in digitizing their businesses, Australian enterprises are shifting their focus to leverage the power of Big Data analytics, the Internet of Things and the Internet of Me, and to use digital platforms to develop new products and services.

Australian tech leaders and startups recognize the importance of platform economics in connecting with customers and business partners, and understanding that value is shifting to platform owners. To seize these opportunities, companies are prioritizing the development and deployment of intelligent and connected hardware to help them capture market leadership opportunities and place customer experiences at the center of their strategies.

Australia lags other nations in the use of Big Data analytics, whereas predictive analytics is at a similar level to the global average. Cognitive computing is used by very few companies at the moment, but is predicted to become more prevalent in the near future.

Areas where Australia stands above the global average include robotics and drones, which are contributing to a shift in people being deployed in higher value-adding jobs.

Australia enjoys a growing high-tech startup sector, but faces ongoing impediments to developing a thriving high-tech entrepreneurial ecosystem.

For instance, there is a shortage of talent due to the relatively small size of Australia's population, as well as a net export of technology experts. Unfavorable employment tax issues, coupled with Australia's relatively high cost of living, have also contributed to difficulties in attracting talent from overseas.

Recognizing the high potential for startup companies to contribute to job creation and GDP, the Australian government offers a generous R&D tax incentive for startup companies. Startups can effectively get a refund of 45 cents in the dollar of their R&D spend.

However, there is a call from the startup community and other interest groups for the Australian government to implement policies and programs to stimulate the high-growth technology sector and produce more new technology-based companies. We still see the trend of technology companies leaving Australia in search of talent, capital and more favorable regulatory conditions.

Areas that must be addressed include a need for an increased number of entrepreneurs with the right skills, an early incorporation of ITC skills development in schools, better engagement with the universities, access to early stage capital, and an improved regulatory environment.

New models of venture capital firms are emerging to improve returns for VC funds. The number of startup hubs, incubators and accelerators are increasing, particularly in the major capital cities. ●

**"Australia is facing an enormous opportunity. With technology as the catalyst for economic growth and the Internet as the distribution network, Australia is no longer constrained by scale within a small domestic market. However, Australia needs to ensure it has a healthy entrepreneurial ecosystem to be able to seize this opportunity and leverage technology as the main driver of productivity and sustainable prosperity for the Australian people."**

— **Kristina Kipper,** Partner, Technology Segment Leader, KPMG in Australia

COUNTRY PERSPECTIVES

## CANADA – The Northern Tech Engine

Canada is seeing a new generation of entrepreneurs building world-class companies and leveraging a dynamic ecosystem that provides favorable support to fuel their aspirations to become world leaders. Venture capital is flowing, innovative companies are plentiful, and government policies continue to be supportive.

VC investments in Canadian innovation and technology companies in 2014 increased 21 percent to top US$2 billion. Companies in the enterprise and consumer software sectors continued to be the main recipients, securing more than US$1.2 billion, a 38 percent jump over 2013.

A number of large deals fueled the market's growth, including CA$90 million for e-commerce company BuildDirect, CA$85 million for educational technology provider D2L, and CA$66 million for social media management provider Hootsuite.

VCs from the U.S. continue to look north — investing CA $712 million in 2014 alone — driven by Canada's favorable exchange rate, tax incentives, and a skilled and loyal workforce. Public markets also back the sector's smartest ideas: 65 new technology and innovation companies launched successful listings on the TSX and TSXV between January 2014 and June 2015. The top-performing TSX IPO during 2014 was Kinaxis, a tech company focused on supply chain innovation.

Canada is also home to several so-called 'unicorns' (startups with $1 billion+ valuations) including e-commerce company Shopify and messaging app company Kik. Slack, a company with a Canadian-based founder and roots, is developing a new business communications platform for teams, and has a valuation of US$2.8 billion after less than 18 months in existence.

Canada is also seeing growth in multiple innovation and technology sectors as well as continued interest from multinationals. Since 2010, Canadian fintech startups have generated over CA$1 billion in investment, and now number 89 companies in 11 different subsectors ranging from Bitcoin to equity crowdsourcing, according to OMERS Ventures. Other strong sectors include life sciences, health IT, enterprise SaaS, wearables, data and analytics, e-commerce and security.

U.S. multinationals such as Google and Johnson & Johnson have established development centers or labs in Canada to leverage an abundance of leading technical and innovation skills, or to foster the development of new discoveries.

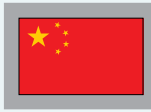
Canada's growing innovation ecosystem is backed by a national network of accelerators for startups and an emerging class of serial entrepreneurs providing peer mentorship as they work on their next big venture. The C100 association (a group of Canadian tech executives based in Silicon Valley) similarly provides programs and guidance to top Canadian founders seeking to secure U.S. business partnerships and fund-raising deals.

Canada's government is also keen to create a fertile environment for technology growth by providing funding programs and generous R&D tax incentives. The government's Economic Action Plan 2015 includes a range of programs and more than CA$1.5 billion in funding.

With a healthy funding climate, a dynamic ecosystem and government support favoring innovative companies, Canada is quickly gaining traction as an important international technology center.

> **"Canada's vibrant and growing ecosystem, favorable funding opportunities and R&D tax incentives make it the right place for innovation and the achievement of long-term, sustainable company growth. Looking ahead, we see Canada continuing to rise as an important international technology center."**
>
> — **Brendan Maher,** National Industry Leader, Technology, Media and Telecommunications, KPMG in Canada

# COUNTRY PERSPECTIVES



## CHINA – The Global E-Commerce Leader

We continue to see China's growing leadership in the technology and innovation space. The goal of government and businesses is to continue to accelerate China's development into a global e-commerce player, in line with its transition from an investment-heavy growth model to a consumption-driven model.

China's tech-savvy consumer population has helped to drive significant technology advances. Along with exploding demand, the Chinese consumer has become more sophisticated, purchasing many different services on mobile e-commerce platforms. Our recent survey of 10,000 online luxury consumers in China highlighted that they are no longer just following trends, but are setting them.

Chinese manufacturers, meanwhile, are undergoing a shift in industrial production, from 'made in China' to 'innovate in China for China'. Given the huge demand volumes, many companies are likely to focus on the Chinese market and design products that are tailored for China. We see increasing numbers of entrepreneurs, angel investors and venture capitalists establishing a presence in China and seeking out new innovative ideas and projects. Their actions are helping to create an ecosystem similar to Silicon Valley, but accentuated with unique Chinese characteristics.

KPMG recently announced the opening of an Innovative Startup Centre at Zhongguancun, Beijing. Zhongguancun is known as "China's Silicon Valley," where a number of innovative and entrepreneurial technology companies have been established.

Compared with other countries such as the U.S., for example, technology innovation is still a new priority in China. Bolstered by the government's focus on economic reforms to reposition the economy toward value-added products, Chinese companies have been adapting their business models and products to stay competitive. Today many technology companies that in the past would have been focused on manufacturing now boast their own R&D departments.

Ongoing challenges in this space include technology complexity and maintaining customer loyalty. Companies must therefore develop the right strategies to survive and thrive in an increasingly disruptive environment, as we continue to see a significant transformation across many sectors resulting from technology innovation. ●

**"China's tech savvy consumers are helping to drive significant technology advances. Chinese companies are increasingly realizing the benefits of adopting emerging technologies and innovating to meet the rising consumer demands. On the enterprise front, new technologies are redefining value chains, and companies need to remain vigilant to stay relevant. Fostering and commercializing innovation is top of mind for Chinese companies."**

— **Egidio Zarrella,** Clients and Innovation Partner, KPMG in China

COUNTRY PERSPECTIVES

## INDIA – Innovates for Indians

Two key elements that lie at the heart of technology innovation are talent availability and a conducive environment. Talent was never an issue in India, and now the environment is becoming friendlier to entrepreneurs and innovation by promoting the availability of capital and application of ideas.

Unlike recent years, when India focused on supporting the global market, India today is taking bold action to develop its own innovations and markets. The government has pledged substantial support for innovation backed by funding and collaboration. An example of this is the allocation of INR150 crore in the Union Budget 2015-16 to achieve global competitiveness in three key areas: innovation, R&D and scientific research.

Two factors that support the Indian environment today are:

- **The mobile revolution** - In the past, India has largely been Internet-deprived. But with increasing affordability of the mobile Internet and growing penetration, the Internet will act as a catalyst for entrepreneurship, extensive job growth and wealth creation. Social media connectivity through platforms like Facebook, LinkedIn and Twitter adds icing to the cake.
- **Payments banks** - The Reserve Bank of India has allowed the creation of payments banks in India to promote inclusion in the financial sector. Through this initiative, banks will be able to serve consumers in the rural areas of the country.

Ever since the launch of Digital India, the government has been encouraging India youth to innovate, and 'Design in India' with government support and an entrepreneurial environment.

Today, India has the right combination of the key elements of innovative success. Talent always existed in the country, and now, with the 'Make in India' direction laid down by the government, we see India as an attractive opportunity not just for the global market, but also for local innovation.

The positive change in the environment supporting innovation will additionally drive the IoT market in a big way. While other fundamental changes like 2G-3G-4G upgrades will continue, IoT will revolutionize the digital world. India is making IoT devices at par with those made in other countries across the globe, and a large talent pool of mobile app developers in India is creating interfaces between products and users. The Department of Electronics and Information Technology (DeitY) predicts the value of the IoT industry in India at US$15 billion by 2020, about 5 to 6 percent of the growing global IoT industry.

**"IoT will have the same impact on digital technology as the wheel had on modern industrialization."**

**— Akhilesh Tuteja,** National Head - Technology sector, KPMG in India

# COUNTRY PERSPECTIVES

## IRELAND – Europe's Global Tech Hub for Work-life Balance

For the second year, Ireland is on track to remain the fastest-growing economy in Europe and one of the region's best places for starting a business, investing and living. As home to nine of the top 10 global software companies and nine of the 10 leading U.S. ICT companies, Ireland has secured its position as a global technology hub and a gateway for doing business in Europe. More than 1,150 companies, from global ICT companies to innovative startups, have set up their European base in Ireland.

In addition to Google, Microsoft, Intel, Facebook and Twitter, Ireland has an extensive ecosystem of innovative and high-quality indigenous tech companies with a rising global presence, notably in the startup space. The country boasts the youngest population in Europe, with 40 percent under 29, and it's ranked first globally by the IMD for an availability of senior managers, openness to foreign ideas, and flexibility and adaptability of its people.

The Irish economy has recovered successfully from the financial crisis, with domestic demand improving and strength in its trading partners fueling external demand. Unemployment has consistently fallen over the past three years (down to less than 10 percent) and exports are at an all-time high, driven by goods and services alike.

Venture capital investment is thriving globally, and Ireland continues to punch above its weight with over €800m in funding available through a network of angel investors, seed, venture capital and development capital firms. Several factors are driving this activity, including the rise of disruptive technologies and new and innovative tech applications, particularly among startups. Additionally, Ireland ranks high for quality of lifestyle.

Successive governments have focused on creating an open economy that supports Ireland's tech industry. Most recently, the Irish government has recognized the country's strengths in the fintech arena and the opportunities it presents for economic growth and employment. Consequently, Ireland is rapidly becoming a center for fintech innovation and development in Europe.

The country's highly attractive tech environment is supported by a pro-business tax regime, including a low corporate tax rate of 12.5 percent, an attractive R&D tax credit regime and generous government grant support. ●

**"Ireland is fast becoming a global center for harnessing the fintech opportunity. Its vibrant, dynamic technology sector, well-established global financial services center and proactive ecosystem has provided the perfect fit for international fintech companies seeking to expand and grow. The country's combination of talented people with strong technology and finance backgrounds and proactive government support has enabled a wave of startup companies to prosper and develop their potential in a highly pro-business environment."**

— **Anna Scally,** Partner, KPMG in Ireland

## ISRAEL – Exit Hotspot: Israel Sees Exits Rise for Three Straight Years

With a population of eight million people, Israel has over 6,000 startups and attracts more venture capital per person than any other country. The vibrant Israeli startup scene extends from the tech hub of Tel Aviv to Jerusalem and all the way to the southern desert city of Beersheba.

Israel has established a foothold as a global tech giant, backed by several unique elements that have solidified the strength of the Israeli startup scene – and are transforming the young startup nation into an exit nation. Key characteristics of the Israeli tech ecosystem include:

- **A&D technology** - Until a decade ago, 8200 was a highly secretive army unit, but today it is happily sharing its know-how with companies seeking top talent in engineering, communications and other technology sectors.

**"As a veteran of one of the elite technology units, I can say with confidence that the culture and innovative thinking required in these units provide a very fruitful success factor of the technology ecosystem."**

**— Jonathan Lavender,** Partner, Head of Markets, KPMG in Israel

- **The necessity of self-reliance** - As Israel cannot rely on cross-border trade, Israelis have developed a self-preservation mechanism rooted in self-reliance. This attitude is pervasive among most Israelis, including startup founders and CEOs.

- **A culture of diversity** - The Israeli society is wildly diverse, with ethnic, religious and even tribal divisions. Israelis understand how to harness the power of diversity in business culture. Companies looking to launch international operations can find skilled labor easily. Israel is saturated with native English, French and Russian speakers, but more exotic languages are also readily available.

- **Workforce** - The successful absorption of a huge population of immigrants and their children is an integral part of Israel's success story. Israel's many advantages continuously attract skilled workers from the U.S., Canada, Australia, the UK and France.

- **Government support** – Israel's government provides key support to the technology ecosystem by providing generous tax incentives for companies and investors, funding for incubators and accelerators, and R&D grants and tax relief.

Israel is a high-performing market for venture-backed companies with increasing momentum in 2015. This year has already surpassed 2014 for venture-backed exits of Israel-based companies, at 23 year-to-date. Last year Israel had 22 exits, a healthy year-over-year (YoY) growth of 69 percent in 2014.

**Exits by sector** - Israeli exits in 2015 year-to-date have come from a variety of innovative sectors, with mobile and telecom, Internet, and healthcare being the top three sectors for exits, in that order.

- Mobile and telecommunications companies have accounted for 30 percent of exits this year in Israel, after making up about one-fourth of exits in the previous two years.

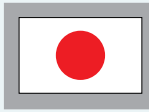
- There was a spike in healthcare exits in 2014, when they accounted for 36 percent of Israeli exits, up from 8 percent in 2013. In 2015, the sector has contributed 17 percent of exits.

- Software exits have slowly declined, hitting a three-year low of 9 percent in 2014, but have bounced back a bit to 13 percent in 2015.

**"The next challenge of the Israeli tech ecosystem is to grow from 'startup nation' to a 'scale up nation,' which will enable Israeli companies to build and expand globally with operations across the globe."**

**— Arik Speier,** Partner, Head of the Technology Practice, KPMG in Israel

# COUNTRY PERSPECTIVES



## JAPAN – Where "Made in Japan" Really Matters

The Japanese have been creating superlative hardware innovations in a broad range of industries globally, and today, Japan is launching a paradigm shift of its physical assets and expertise through connectivity enabled by software and Internet technology.

Industrial robotics has been one of the key industries in Japan, and ongoing innovation in robotics technology will continue to drive new breakthroughs. The Japanese government launched an initiative this year to double the use of robotics technology in manufacturing, service industries, agriculture, and inspection and repair of the country's infrastructure. The initiative is designed to connect robotics with Big Data and create a new industry environment.

In addition to robotics, Japan remains predominant in its abundant innovative technologies such as IPS cells, medical devices and systems, and biomaterial.

Japanese policymakers often use the word "Monozukuri" like a mantra in stating industry policy. The word represents a high quality of products —"made in Japan," as well as innovation based on cutting-edge technology and manufacturing management expertise such as kaizen and "just in time" that have sustained the growth of Japanese industry.

On the other hand, Japan's economic performance has stagnated sharply in the last two decades, and it is obvious the standalone technology innovation and business management theory will not be sufficient to compete with other markets.

After the launch of the Abe cabinet, a series of reforms have been accelerated, with 2014 marking tremendous shifts in government industry policy to support disruptive innovation. To create new industry dynamics based on diversified technology assets, the Cabinet Office started the Strategic Innovation Promotion Program (SIP) in 2014 to promote technology transfer, collaboration commercialized innovation with academia and industry. ●

**"Japan's government continues to focus on incentives to attract startups and recapture their tech leadership. Tokyo has a number of tech incubation centers and communities; the majority of those are university startups and some are carve-outs from larger companies. U.S. venture capital is also active now in Tokyo, which will lead Japanese tech startups to global markets even in their early stages."**

**— Eiichi Fujita,** Technology Lead Partner, KPMG in Japan

COUNTRY PERSPECTIVES

## KOREA – A New Focus on Software to Enhance its Hardware Edge

With the high competitiveness of Korea's advanced electronic device manufacturing, the technology industry has been one of the main engines of the export-driven Korean economy. Companies such as Samsung Electronics, LG, and SK Hynix, are global leaders in smartphones, memory chips and flat panel displays, and they represent a large portion of Korea's exports.

Recently, however, Korea has suffered from a decrease in exports, sluggish domestic demand and low profitability of companies in the technology sectors. Continued slow growth in the global economy, worries over slowdown of the Chinese economy, competition with Chinese companies, and lower-than-expected smartphone demand all affect Korean technology companies negatively. In addition, Middle East Respiratory Syndrome and heightened tension between North Korea and South Korea had further adverse effects.

As the once-robust growth in technology slows, Korea's government and companies are working to promote improvement in its technology service industries, including software. The sector is becoming critical to Korean innovation, employment and domestic markets growth as manufacturing companies seek labor cost reductions by moving their factories and enhancing automation.

Korea is renowned for its strong information and communication infrastructure. For instance, the number of broadband Internet subscribers represents 103 percent of the number of households, and mobile cellular subscribers are approximately 57 million, which is greater than the population of 51 million. This infrastructure will enable the strategic transition to service industries dependent on technologies.

To support this tech transition, the Korean government is investing US$1.6 billion for promotion and convergence of the information, communication and technology (ICT) industry and upgrading Korea's ICT infrastructure.

Korea has relative weakness in the software industry. To overcome this shortcoming, Korea developed a long-term plan for strengthening the sector by adding software curricula for elementary and middle schools, establishing software "Meister" high schools, and operating software-oriented colleges. In addition, the Korean government has a view that a low maintenance fee for software is a big barrier for enhancement of the software industry and will promote an increased fee.

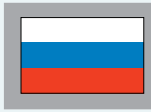
Korea is focused on the convergence of ICT and traditional industries, impacting fintech and healthcare markets. Korea plans to remove hurdles for moving to an "ultra-connected" society by upgrading wire and wireless communication networks to handle explosive growth in data traffic, fostering an Internet environment based on global standards, and replacing technologies hinged on ActiveX.

This convergence of IoT and Big Data with traditional industries inevitably requires heightened attention to information security and privacy protection, but industry and the government are keen to find the right balance so sound and safe growth can be attained. ●

**"For future growth, the Korean government has selected nine strategic technologies: 5G mobile communication, smart device, IoT, Big Data, cloud computing and services, information security and privacy, ultra-high definition broadcasting, software and digital content. All of these technologies are closely related to the industries in which Korea has strong points and will result in synergies for the growth of Korean economy."**

— **Sung Rae Park,** National Industry Leader, Technology, Media and Telecommunications, KPMG in Korea

# COUNTRY PERSPECTIVES



## RUSSIA – Rich in Science; Challenged by Investment Climate

The Russian technology industry, despite being fragmented, has continued to grow, driven primarily by successful investments in export-focused software development services, cloud technologies and e-commerce solutions. The overall level of economic uncertainty, however – combined with deterioration in the investment climate – has affected the industry and its performance, leading to the suspension, reduction or cancellation of planned investment.

In 2014, state authorities announced a new focus on supporting software development, with an emphasis on IT security solutions. This has become especially important since some Western vendors have suspended the supply of, and technical support for, their products in Russia. A new focus on substituting imported software for state bodies and state-owned entities, despite being an industry trend, was not supported effectively. As a result, the application of locally developed or open-source software has risen, but at the same time, the import of foreign products has continued.

Startups lack several factors needed to commercialize innovation, such as a friendly ecosystem, mentoring, and sufficient information, and have limited access to infrastructure. In addition, one of the most significant challenges for startups is to structure innovation because Russia is rich in top-tier scientists and has a talented workforce, yet few of them are business-savvy entrepreneurs.

Steps taken by the Russian government have not yet provided strong incentives to boost startups and innovation-based businesses. For instance, small and medium companies usually experience difficulties when trying to access long-term financing, and cannot leverage industry alliances. The taxation system in the Russian Federation continues to evolve and is characterized by frequent changes in legislation. Similarly, official pronouncements and court decisions are sometimes contradictory and subject to varying interpretation by different tax authorities.

The most promising solutions that can drive business into the near future are cloud technologies (specifically IaaS, due to the large reductions in capital investment by many entities in response to local currency weakening) and information security. The latter has emerged as a focus, in large measure because of sanctions imposed on Russia.

Meanwhile, businesses continue to seek IT solutions that will improve business efficiency and reduce costs. Mobile telecoms applications is another important subsector displaying high levels of stable growth. The potential of the Internet of Things is another promising area, but delivering it and reaping the benefits will take time. ●

**“Local entrepreneurs have a reasonably stable level of confidence in Russia’s ability to deliver substantial breakthroughs in bringing innovative technologies to market and creating local services that will find global demand. Despite various restrictions, and technical, infrastructure and financial challenges entrepreneurs face, they continue to display optimism and believe it is possible to leverage these opportunities profitably.”**

**— Alisa Melkonian,** Partner, Head of Innovation & Technology, KPMG in Russia and the CIS

COUNTRY PERSPECTIVES

## SINGAPORE – A Smart Nation in the Making

Backed by government investments in technology and infrastructure improvements, along with compelling financial incentives, Singapore has introduced a variety of measures to become the world's first Smart Nation.

Singapore's government is investing to harness technology to develop innovative solutions in areas such as home-based services, transport and healthcare, and to better serve its citizens. The Infocomm Development Authority of Singapore (IDA) is developing and strengthening Singapore's physical and digital infrastructure by deploying technologies including the Smart Nation Platform (SNP) and Heterogeneous Network (HetNet).

Government agencies are taking the lead by sharing data, and co-innovating solutions and ideas with industries, research institutions, and citizens. One example is Beeline, a transportation concept that applies data analytics to system-generated 'Big Data' and crowd-sourced demand. Introduced by IDA and Land Transport Authority, the initiative is designed to optimize public transportation without necessarily building new train or bus lines.

Smart Nation technologies piloting at the Jurong Lake District include driverless buses and taxies, using motion sensors to adjust park lighting, and integrated home sensors. In these pilots, involving various agencies, sensor data is being enriched with other available information to create innovative solutions to tackle urban challenges.

Another pillar in the Smart Nation drive is fostering technology startups by providing infrastructure to bring the technology entrepreneurship community together.

A site at Ayer Rajah Crescent (JTC LaunchPad@one-north) has been set aside to house an estimated 500 startups and 35 incubators. Collectively, Block 71, Block 73 and Block 79 offer a range of facilities such as co-working and essential services and access to expertise that can support local startups at the different stages of their development and commercialization.

In addition to infrastructure support, the government provides grants and incentives. These include MDA i.Jam and the National Research Fund (NRF) Technology Incubation Scheme, which co-invests up to 85 percent of an investment by a recommended incubator.

Also available are tax incentives such as the Angel Investors Tax Deduction Scheme, which offers up to a 50 percent tax reduction of an investment amount.

With such massive support from private investors and the government, the startup ecosystem in Singapore has never been more vibrant and dynamic. Of note, an increasingly failure-tolerant culture has also encouraged more risk-taking and entrepreneurial pursuits. Attesting to this is exponential growth of the number of startups, from 24,000 in 2005 to 42,000 in 2013. Of these, about 15,000 startups are technology-based.

Finally, a Smart Nation needs a Smart Financial Center. A new Financial Sector Technology and Innovation (FSTI) scheme was introduced by the Monetary Authority of Singapore (MAS) and is backed by a S$225 million (US$166.48 million) war chest.

Financial institutions can use this fund over the next five years to build innovation centers and fund fintech projects such as the blockchain record-keeping system. Other FSTI-supported projects include a decentralized record-keeping system that prevents duplicate invoicing in trade finance, a cyber-risk test-bed and a natural catastrophe data analytics exchange.

One important aspect of a Smart Nation is a more holistic cyber security approach. Under the purview of the Singapore Standards Council (SSC), several government agencies have laid out an Internet of Things (IoT) Standards Outline in support of Singapore's Smart Nation initiative. This set of best practices and guidelines will steer stakeholders and ensure that new technologies and smart solutions are developed efficiently.

Together with other initiatives and incentives, these investments will help Singapore develop, implement and commercialize a variety of emerging technologies on its road to becoming a truly Smart Nation. ●

**"Singapore's vision to be the first Smart Nation has spawned a number of initiatives. Examples include smart homes, smart finance and smart transport. Various government agencies are driving technology innovation, providing incentives and opportunities to encourage companies to harness the power of technology to innovate and change the way we live and work. Leveraging Big Data and the Internet of Things (IoT) looks set to accelerate these changes."**

— **Lyon Poh,** Head of Digital + Innovation, KPMG in Singapore

# COUNTRY PERSPECTIVES

## SLOVAKIA – A Country With Sky-high Ambitions

Slovakia has a pool of smart and creative entrepreneurs who are able to bring world-class products and services to the market. Slovakian innovation is focused on four key industries: automotive and mechanical engineering; ICT; consumer electronics and electrical appliances; and iron and steel production and processing.

In addition, innovation offers promising growth in automation, robotics and digital technologies; processing of light metal; polymer production and processing; and advanced chemical substances (including smart fertilizers).

The fastest growth is recorded in Slovakia's startup sector. We expect to see an increasing number of organizations supporting startup projects, particularly in mentoring and networking. Based on the latest surveys, foreign industrial companies plan to build their own R&D centers here, which will help Slovakia change its innovation emphasis from production to development.

One of the latest innovations made in Slovakia is a unique flying car produced by AEROMOBIL. The current prototype transforms from an automobile to an airplane in seconds.

Another interesting Slovak company developed a technology called sli.do, an audience interaction tool for meetings, events and conferences that offers interactive Q&A, live polls and real-time presentation sharing. GA Drilling is another emerging company commercializing a technology platform called PLASMABIT to deliver substantial time and cost savings in the energy and utility sector.

To support the trend of innovative business, new actions approved by the Slovak government include:

- Issuing "startup visas" to startups from countries outside the EU
- Establishing a National Entrepreneurial Center
- Creating an angel investors platform
- Providing grants for students with innovative ideas before company formation
- Creating a Center of Excellence for Information Security
- Appointing a permanent representative of Slovakia in Silicon Valley
- Offering incentives for angel investors
- Introducing new financial instruments for startups within The National Entrepreneurial Center.

**"Innovation and innovative capacity are important elements in all sectors, organizations and companies, but in the project management or customer approach as well. The innovation process of Slovakia has been already kicked off. The aim is to create an innovative and creative country where big things are born."**

— **Vladimír Švac,** Head of Innovation Advisory Services, KPMG in Slovakia

COUNTRY PERSPECTIVES

## SOUTH AFRICA – Progress With Innovative Startups Despite Obstacles

South Africa continues to be a leader in Africa's technology market, thanks in part to a stable political environment and IT outsourcing that provide an attractive investment climate for local and global multinationals.

South Africa also boasts the most developed IT-BPO market on the continent, with an unrivalled mix of a large domestic market plus a vibrant offshoring industry. There are generous fiscal incentives for the outsourcing industry, as well as tax rebates for all R&D investments, including software development.

Although the infrastructure to support innovation such as electricity and internet connectivity has come under fire, the South African government's vision of ICT is rated highly. South Africa has achieved significant success in promoting ICT, for example, by setting up technology parks and government-backed subsidies for incubating startups. The government has also launched a national fibre optic network as well as a comprehensive undersea cable strategy.

There are encouraging examples of disruptive innovations in the South African technology arena. One of the earlier examples is MXit, an instant messaging app that disrupted traditional SMS technology. A more recent example has been in the mobile payments space, with devices such as the Pebble, a device used to accept card payments via mobile phones.

M-PESA has also been a game changer across the financial services industry and allows the unbanked population to gain access to financial services. SnapScan won the South African app of the year award in 2013 for allowing retailers to accept in-store payments via mobile devices.

Further examples of disruption in the marketplace include the use of drones in the warehousing environment to perform stock checks. Canonical Limited, which developed the Ubuntu operating system, was founded by a South African.

Some of the practical applications of IoT are most likely to emerge in the government space, where there is a growing need to develop "smart cities" – infrastructure that uses IoT to enhance the safety and well-being of citizens, improve service delivery and increase resource utilization. This will be done through the use of "smart sensors" and data and analytics interconnected through the Internet.

Cyber threats are emerging in the consumer and enterprise space. Identity theft, credit card fraud, phishing and ransomware are highly prevalent. The market is responding by taking cybersecurity more seriously. Additionally, the government has enacted regulations to provide consumer protection and online privacy.

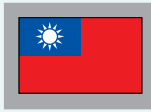
Enterprise IT users in South Africa are challenged by budgetary pressures, lack of available IT skills, high costs for communications services, and growing regulatory and compliance demands. Similarly, South Africa's high unemployment level and a lack of deep technical skills has had a negative impact across a number of industries, and coupled with a weakening rand, can pose challenges to the technology industry.

But despite these issues, it is encouraging to note that South Africa has a budding tech startup industry with hubs, incubators and initiatives aimed at bringing together like-minded entrepreneurs, academia, industry players and investors.

**"The internet has enabled people to become global citizens with access to the same information regardless of social or economic status. As a result, a student in the middle of a township in South Africa with access to a low-cost mobile phone can consume the same information as a child in an Ivy League school behind a cutting-edge laptop. Purposeful innovation will be to translate this equal access to information into sustainable societal benefit for disadvantaged Africans."**

— **Frank Rizzo**, Technology Sector Leader, KPMG in South Africa

# COUNTRY PERSPECTIVES



## TAIWAN – Facing Up to Challenges by the Red Supply Chain

Taiwan has transformed itself into a major player in the global technology supply chain through fast, flexible and efficient ICT manufacturing processes. Much of the world's ICT products are assembled by Taiwan-based companies through their manufacturing sites in China. However, Taiwan's OEM/ODM manufacturing model is concentrated on a few major international brands. The launch of the Apple iPhone 6, which is assembled almost entirely by two main Taiwanese companies and features Taiwan-made parts – is boosting tech-sector sales performance substantially in 2015.

Currently, Taiwanese ICT manufacturing companies are facing challenges from the emergence of a so- called "red supply chain" in China, a program laid out by the Chinese government to cultivate a domestic supply chain for China's high-tech manufacturing sector. These plans range from IC design, wafer foundries, LEDs and LCD display — all areas in which Taiwan excels. China's ambitious goal to become self-sufficient in the tech supply chain is causing a severe impact to many Taiwanese tech companies. Furthermore, China tech companies continue to acquire high-level and middle-level talent in many sectors from Taiwan, which is another challenge.

Under this threat of competition, some Taiwanese companies are working to seek strategic alliances, M&A and transformation. Some Taiwanese firms have expanded manufacturing sites to other counties, including India and Southeast Asia.

Consequently, Taiwan is shifting its focus for the next driver of growth toward a more service-oriented electronics industry driven by the efficient integration of hardware and software capacity. Taiwan's government is promoting several initiatives under a "Productivity 4.0" policy based on the concept of the fourth industrial revolution. This initiative aims to increase competitiveness not only in the manufacturing area, but also in services and other sectors by using the tools and concepts made available by IoT, Big Data, cloud and automatic systems.

Taiwan's technology sector is well-poised to develop web-based smart factories, as well as automotive and healthcare innovations due to its strong presence in the global hardware manufacturing supply chain. IoT provides an opportunity for the tech sector to transform its role in electronics component manufacturing. Taiwan's technology sector already enjoys a strong manufacturing supply chain from IC design upstream to manufacturing and end product assembly as a benefit of IoT. ●

**"Strength in Taiwan's IoT capabilities have paved the groundwork for new developments in wearable technologies and expanded development of smart medical services that are integrated with hardware devices. The Taiwanese hardware architecture of wearable devices is similar to mobile and IoT devices, and Taiwan's OEM/ODMs are aiming to get a bigger piece of this market over the next few years."**

**— Samuel Au,** Partner, Head of Technology, Media and Telecommunications, KPMG in Taiwan

COUNTRY PERSPECTIVES

## United Kingdom – Robust Startups Are Not Hype But the Reality in Britain

The tech sector in the UK continues to gain momentum and is increasingly seen by local and national government as a key sector that needs to be supported. KPMG's quarterly Tech Monitor survey on the state of the UK shows resilient growth trends, increasing profitability, continued reinvestment of profits into jobs and capex, and a tech sector that outperforms the broader UK economy.

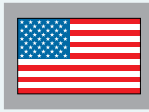
Notable achievements include the UK tech industry delivering four years of business growth since the dip of the financial crisis, and five years of continuous job creation at triple the rate of the rest of the UK (22 percent vs 7 percent). Importantly, this growth is happening across a range of tech companies including startups. To the skeptics debating whether the startup scene is hype or reality, our survey shows UK tech startups have reached a seven-year high of 40 percent growth and have a 'two-year survival rate' of 82 percent, which exceeds the UK average of 76 percent. The year 2015 also saw the UK have its largest-ever tech IPO when anti-virus software group Sophos floated on the London Stock Exchange.

The above facts point to a strong and healthy tech sector. UK tech executives are also feeling optimistic about the future with staff hiring intentions at a record high and 57 percent forecasting a rise in the level of business activity for 2016. ●

**"There is real momentum in the UK tech sector and it is outperforming the rest of the UK in terms of key measures of level of business activity, job creation and capex investment."**

— **Tudor Aw**, Technology Sector Head, KPMG in UK

# COUNTRY PERSPECTIVES



## UNITED STATES – Where Tech Revolution Resides

The U.S. tech landscape is shifting, driven by many factors that are increasing innovation and revolutionizing entrenched businesses and industries.

More cities across the nation are jumping onto the startup bandwagon that Silicon Valley has engineered as a model for economic growth. New York City has emerged as an important counterpoint to the Valley's power. Los Angeles and Seattle are both poised to develop more startup credentials as well. The Bay Area itself now has two hubs – San Francisco to the north and Silicon Valley to the south.

There is talk in U.S. tech circles that the bubble cycle of innovation and investment of the past few years will deflate. But so far, despite turbulence in the financial markets, signs of a cyclical end to this startup boom are few and far between. Indeed, venture capital invested in U.S. startups through the third quarter of 2015 has reached $47.2 billion, exceeding full-year totals for 17 of the last 20 years, according to the National Venture Capital Association. Meanwhile, venture fundraising to invest in the next generation of new technology companies is continuing strong, with more than 202 new funds raising a total of $22.7 billion through the third quarter.

Most industries are being disrupted in the U.S. by the development of cutting-edge technologies in a broad cross-section that includes IoT, data and analytics, cloud, mobile and artificial intelligence. Retail, healthcare, transportation, financial services and other sectors are all undergoing massive transformation as a result of a U.S. lead in these underlying technologies.

The tech stature of the U.S. continues to be unparalleled, although China has emerged as a main rival to the United States ingenuity. What other country in the world could claim the likes of Bill Gates, Steve Jobs, Mark Zuckerberg, Tim Cook, Larry Page, Sergey Brin and Jeff Bezos?

The China factor is playing out in U.S. tech markets with the entry of several Chinese technology titans shaking up norms. China's Tencent, Baidu, Alibaba, Renren are all acquiring or investing in U.S. startups and establishing offices in Silicon Valley and Los Angeles for leading edge research and development, and market expansion. Meanwhile, U.S. tech companies such as Uber, LinkedIn and Evernote are figuring out how to succeed in establishing businesses in China, opening up key important revenue streams.

The IPO path to growth among emerging U.S. companies is declining in favor of M&A deals fueled by high valuations for companies with commanding positions. Similarly, the opening up of crowd financing as a source of capital for startups is having an impact on traditional venture capital as well as angel investment. Finance is becoming democratized. ●

**"Silicon Valley's ecosystem and culture continue to be fundamental differentiators from other tech hubs around the world. The tolerance to fail and the opportunity to fail and then succeed is a key factor in Silicon Valley's tech innovation leadership and why so many serial entrepreneurs from all corners of the world make Silicon Valley their home."**

— **Gary Matuszak**, Global and U.S. Chair, Technology, Media and Telecommunications, KPMG

# Conclusion

# CONCLUSION

## There is a **dynamic momentum across regions** to capitalize on emerging technologies, and **to attract and retain** the next wave of **technology innovation leaders**.

**Silicon Valley's ecosystem and culture continue to be the role model for every city around the world** aspiring to become a tech innovation leader. U.S. tech leaders have a global and agile mindset as the market has become more competitive in nearly every sector. In the big tech companies, leaders are creating and reinforcing an agile culture and shifting resources to disrupt internally rather than protect the status quo.

**China and India are focusing on innovations that capitalize on monetization opportunities within their own markets**, given the scale of consumer demand in these two countries. The China Brain project is talked about today as a frontier for Chinese artificial intelligence to break through globally, just as the race to the moon was cited as a national tech priority for the U.S. and Russia decades ago. On the international front, Alibaba and Baidu are demonstrating success in driving innovation for China as well as international markets.

**A longterm commitment to tech innovation leadership across government, academia and enterprises** continue to position Japan and Israel as key innovation hubs in the development of complex and important technologies. Israel continues to drive leading-edge innovation in areas like cyber, and Japan's longterm investment in robotics and other technologies is making the country an early adopter across a significant range of emerging technologies in a variety of industries.

**Whether a company is large or small, developing and commercializing innovation is a complex undertaking** that requires the right mix of product or service development, capital, talent and customers willing to embrace new technologies or ways of doing business.

**New technologies are redefining value chains** and companies need to remain vigilant to stay relevant. Managing talent is a particular challenge amid intensifying technological investment change.

> “Many innovations are being developed away from the tech industry’s traditional Silicon Valley hub. The landscape of disruptive technologies adoption also speaks to the increasingly global ecosystem needed to commercialize tomorrow’s technology successfully.”

– **Gary Matuszak**, Global and U.S. Chair, Technology, Media and Telecommunications, KPMG

# About KPMG

### KPMG: AN EXPERIENCED TEAM, A GLOBAL NETWORK

KPMG’s professionals combine industry knowledge with technical experience to provide insights that help leaders take advantage of existing and emerging technology opportunities and proactively manage business challenges.

Our network of professionals has extensive experience working with global technology companies ranging from the Fortune 500 to pre-IPO startups. We aim to go beyond today’s challenges to anticipate the potential long- and short-term consequences of shifting business, technology and financial strategies. With a worldwide presence, KPMG continues to build on our member firms’ successes thanks to our clear vision, maintained values, and our people in 155 countries, we have the knowledge and experience to navigate the global landscape.

### GLOBAL CONTACTS

**Gary Matuszak**
Global and U.S. Chair, Technology, Media and Telecommunications, KPMG
gmatuszak@kpmg.com

**Patricia Rios**
Director, Technology Innovation Center, KPMG LLP (U.S.)
patriciarios@kpmg.com

### KPMG: Technology Innovation Center

KPMG recognizes the importance of innovation. In 2012 we launched a global Technology Innovation Center to identify and evaluate the impact of future disruptive technologies. The center connects leading global technology thinkers including entrepreneurs, Fortune 500 technology executives, venture capitalists and KPMG member firm professionals.

The KPMG Technology Innovation Center is headquartered in the United States. The global network includes Australia, Brazil, Canada, China (and Hong Kong), Germany, Finland, France, India, Ireland, Israel, Italy, Japan, Korea, Netherlands, Russia, Singapore, Slovakia, South Africa, Spain, Taiwan, the United Kingdom and other countries.

**The center provides access to a number of programs including the following:**

- **Tap into unique insights identifying technologies that will drive business transformation and reshape the future of the tech sector and other industries**
- **Access a global network of tech sector visionaries**
- **Join digital and in person programs with tech visionaries**
- **Drive ideas for global research about emerging technologies – structured process to drive research outcome**
- **Opportunity to be a featured speaker in KPMG’s global Technology Innovation Center and country summits.**

**Join today!**
**kpmg.com/techinnovation**

# KPMG Technology Innovation Center Contacts

For further information about this survey, and how KPMG can help your business, please contact:

## Countries


### Australia
**Kristina Kipper**
Partner, Technology Segment Leader,
KPMG Australia
kkipper1@kpmg.com.au

### Brazil
**Manuel Fernandes**
National Industry Leader,
Technology, Media and Telecommunications,
KPMG Brazil
mfernandes@kpmg.com.br

### Canada
**Brendan Maher**
National Industry Leader,
Technology, Media and Telecommunications,
KPMG in Canada
bmaher@kpmg.ca

**Yvon Audette**
National IT Advisory Leader, KPMG in Canada
yaudette@kpmg.ca

### China
**Egidio Zarrella**
Clients and Innovation Partner, KPMG in China
Egidio.zarrella@kpmg.com

**Irene Chu**
Head of High Growth Technology & Innovation
Group, KPMG in China
irene.chu@kpmg.com

### Germany
**Bruno Wallraf**
Technology Sector Leader, KPMG in Germany
bruno.wallraf@kpmg.com

### India
**Akhilesh Tuteja**
National Head – Technology sector,
KPMG in India
atuteja@kpmg.com

### Ireland
**Anna Scally**
Partner, KPMG in Ireland
anna.scally@kpmg.ie

### Israel
**Arik Speier**
Partner, Head of the Technology Practice,
KPMG in Israel
aspeier@kpmg.com

**Jonathan Lavender**
Partner, Head of Markets, KPMG in Israel
jonathanlavender@kpmg.com

### Japan
**Eiichi Fujita**
Technology Lead Partner,
KPMG in Japan
eiichi.fujita@jp.kpmg.com

**Saburo Ono**
Head of Technology - Innovation,
KPMG in Japan
saburo.ono@jp.kpmg.com

### Korea
**Sung Rae Park**
National Industry Leader,
Technology, Media and Telecommunications,
KPMG in Korea
sungraepark@kr.kpmg.com

### Russia
**Alisa Melkonian**
Partner, Head of Innovation & Technology,
KPMG in Russia and the CIS
amelkonian@kpmg.ru

### Singapore
**Lyon Poh**
Head of Digital + Innovation,
KPMG in Singapore
lpoh@kpmg.com.sg

**Juvanus Tjandra**
Partner, Management Consulting,
KPMG in Singapore
juvanustjandra@kpmg.com.sg

### Slovakia
**Vladimír Švac**
Head of Innovation Advisory Services,
KPMG in Slovakia
vsvac@kpmg.sk

### South Africa
**Frank Rizzo**
Technology Sector Leader,
KPMG in South Africa
frank.rizzo@kpmg.co.za

### Taiwan
**Samuel Au**
Partner, Head of Technology,
Media and Telecommunications,
KPMG in Taiwan
syau@kpmg.com.tw

### United Kingdom
**Tudor Aw**
Technology Sector Head,
KPMG in UK
tudor.aw@kpmg.co.uk

### United States
**Richard Hanley**
Advisory Sector Leader,
Technology, Media and
Telecommunications,
KPMG LLP (U.S.)
rhanley@kpmg.com

**Gary Matuszak**
Global and U.S. Chair,
Technology, Media and
Telecommunications, KPMG
gmatuszak@kpmg.com

**Patricia Rios**
Director, Technology Innovation Center,
KPMG LLP (U.S.)
patriciarios@kpmg.com