



NUS undergrads (from left) Jirapat Jirasevijinda, 20, Lin Jiayong, 22, and Davidson Chua, 23, were born around or after the millennium, when Singapore doubled down on quantum physics, data science, blockchain and plenty of cool technology in its push to be a wired, high-tech and intelligent city. ST PHOTO: JASON QUAH

S'pore is world's 12th top tech city, has room to grow

With tech-savvy generation entering the job market, there is every reason for optimism

Krist Boo
Senior Business Correspondent

They are all aged just over 20, studying computing, and hoping to land a meaty career in a technology firm – a multinational, preferably – when they graduate.

University students Lin Jiayong, Davidson Chua and Jirapat Jirasevijinda belong to the generation born around or after the millennium, when Singapore doubled down on quantum physics, data science, blockchain and plenty of cool technology as it pushed towards its vision to become a wired, high-tech and intelligent city.

Now, 42 years after it launched its first national computerisation plan in 1980, Singapore – placed 64th among cities for its population size – has come up as the world's 12th top tech city.

The standing, compiled from 14 metrics – including tech talent, real estate and business environment – puts the country behind three Chinese cities, six Indian ones, Hong Kong and Melbourne, but ahead of Sydney and Tokyo.

The inaugural Tech Cities 2022 report was compiled by real estate services Cushman & Wakefield (C&W) using data taken mostly from January to March 2022.

C&W managing director for India and South-east Asia Anshul

Jain said the ranking reflects the country's draw as a tech hub: Eighty of the world's top 100 tech companies operate in Singapore and more than half have headquarters here, he said. When the computerisation plan was launched, “we had fewer than 1,000 computer professionals”, he added.

“Today, we have over 100,000.” There are now more than 4,000 start-ups here, translating into one young hustling venture for about every 1,000 Singaporeans.

Singapore is at a crossroads of opportunity, with a “once-in-a-lifetime chance” to become a global powerhouse in two sectors, said Mr Wong Wai Meng, chairman of SGTech, the Singapore trade voice for more than 1,000 tech companies.

He added: “We believe sustainability and digital trust are two key emerging areas for Singapore to be the front runner and create value in.”

SGTech released a White Paper last Thursday projecting that the industry could become a \$4.8 billion market supporting almost 45,000 jobs in Singapore by 2027.

“The White Paper will include existing areas like cyber security and data protection, and there will be a whole new ecosystem that needs to be formed from professional and consulting services, standards and audit services,” Mr

Wong said.

Digital and green technologies will be the other frontier, alongside Singapore's Green Plan to become a hub in carbon services, green finance and energy.

The information and communications sector was the seventh-largest contributor to Singapore's economy in 2021, at 5.6 per cent.

That was only 63 per cent of what could be its full potential, with US\$17 billion (S\$24 billion) worth of domestic digital output and the same amount in digital trade activities, said the Digital Prosperity for Asia coalition, a grouping of local digital companies.

Mr Benson Koh, the coalition's secretariat, said: “The Asia-Pacific digital economy pie can grow a lot bigger.”

Mr Jeffrey Joe of Alpha JWC Ventures, one of more than 100 tech investment firms recognised by the Economic Development Board, said that while Singapore has a smaller market compared with neighbouring cities, it has strengths that complement its neighbours.

Mr Koh said a study it undertook shows that, combined, the 11 largest Asia-Pacific economies captured only 30 per cent of their digital economy potential in 2021 – a US\$2 trillion potential, to be exact, the study reported.

Mr Joe, the co-founder of the Jakarta-based venture capital firm, said: “Indonesia, with the largest number of digital consumers in South-east Asia, has massive talent and market opportunities.

“Singapore, with its business-friendly environment and future-ready digital infrastructure, serves as the hub that catalyses the formation of innovative start-ups and supports their growth.”

Netizens have lampooned Singapore's efforts as giving the house away, with tax breaks and incentives to woo foreign firms. Singapore still has no home-grown star like Taiwan's Taiwan Semiconductor Manufacturing Company or South Korea's Samsung Electronics, they say.

Professor Boh Wai Fong of Nanyang Technological University said Singapore has taken a “sub-average game” approach.

“It's trying to make everybody better off, rather than what some countries are doing – being very protectionist so that they can grow some of their home-grown companies. Singapore can't afford to do that because we are just too small.”

Instead, the Government tries to develop an “innovation ecosystem”, where it helps to grow start-ups with support and funding, she said.

Mr Huang Yaoquan, the chief executive of building and warehouse solutions firm Qbasis, said the lure of big pay cheques at foreign tech firms puts tech talents out of reach of some local enterprises, but he rejects suggestions that they eat the local boys' lunches.

Today, one could come up with a blockchain algorithm and find partners anywhere in the world with a laptop, he said.

“We also frequently work with talent overseas. There are talents

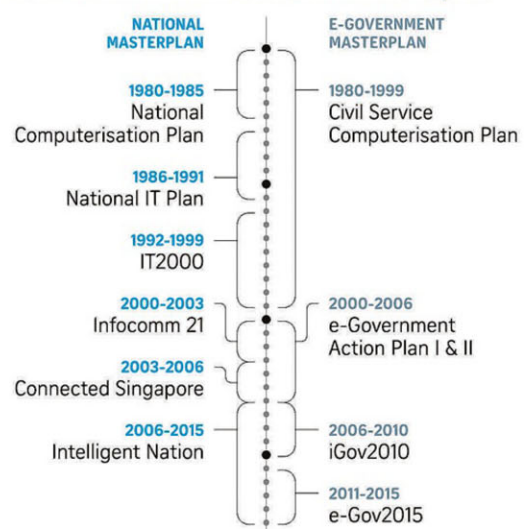
The masterplans of Singapore's tech development from 1980 to 2015

Singapore's rise as a tech city began with the National Computerisation Plan in 1980. Forty-two years later, Singapore is ranked the world's 12th top tech city.

World's top tech cities:

1	Beijing	5	Hong Kong	9	Pune
2	Bengaluru	6	Hyderabad	10	Shanghai
3	Chennai	7	Melbourne	11	Shenzhen
4	Delhi	8	Mumbai	12	Singapore

National infocomm and e-Government masterplans



Sources: CUSHMAN & WAKEFIELD, CENTRE FOR LIVEABLE CITIES
STRAITS TIMES GRAPHICS

overseas that could be had for a better price, or a higher price than what we have here. How you want to use these resources is up to you as an entrepreneur.

“Because Singapore is being pushed as a global hub, we also got interesting opportunities,” added Mr Huang, pointing to a memorandum of understanding between his company and an aerospace multinational after being shortlisted in the Open Innovation Challenge initiative led by the Government.

Mr Sam Liew, president of Singapore Computer Society, named three challenges Singapore has to overcome: Keeping up with changing technology; procrastination over change; and spotting not just the next emerging skill but when to adopt it.

He noted: “In some cases, we want to be leading the way in the tech frontier, but in many situations, it might be much better that we take on the role as ‘fast followers’.”

In the next five to 10 years, “I believe that the biggest risk to Singapore in staying at the top is the shortage of local talent”, Mr Liew added.

“Adopting a DIY (do-it-yourself) approach with just local talent will not help Singapore innovate and scale fast enough.

“However, we need to be

thoughtful in selecting foreign tech talent. Skills, domain and markets are key considerations. There is a need to ensure that their skills and experience, over time, benefit and grow the knowledge base in Singapore.”

For the students, who are somewhat lured by rosy prospects to study computing, the future is both hopeful and daunting.

Mr Jirasevijinda, who left Thailand to study in Singapore because of its IT and finance hub status, said: “I realised that my motivations are driven partially by the global trend of digitalisation and the growing number of high-paying jobs.

“The competition does scare me, so I would say one of my fears is not being able to catch up with others in the fast-paced environment. I'm also worried about the state of the economy and its impact on the tech industry,” he said.

Mr Lin said: “I do not fear there being no job for me, but I fear not being a right fit for the job, or reality not matching my expectations.

“All I can do now is equip myself with skills like programming, communications and stakeholder management, alongside applying for internships at various tech companies.”

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Amid fierce competition for tech talent, does Singapore have what it takes to compete globally?



Mr Wong Wai Meng, chair of SGTech, says competition for tech talent keeps the entire tech industry awake at night. PHOTO: LIANHE ZAOBAO



Mr Huang Yaoquan, CEO of Qbasis, says it is harder to enter the NUS School of Computing than business school. ST PHOTO: JASON QUAH



Mr Davidson Chua is glad that firms setting up HQ here give students like him confidence that there are opportunities. ST PHOTO: JASON QUAH



Cushman & Wakefield's Mr Anshul Jain sees positives for tech firms to find more cost-effective space outside the CBD. PHOTO: CUSHMANWAKEFIELD.COM

Singapore has come up as the world's 12th top tech city in a report by real estate services Cushman & Wakefield.

The inaugural Tech Cities 2022 report, topped by Beijing, was compiled from 14 metrics such as tech talent, real estate and business environment. The Straits Times speaks to four people on Singapore's progress and competitive edge.

MR WONG WAI MENG,
CHAIR OF SGTech

Where do I see Singapore's tech industry in five years? It is increasingly difficult to predict.

Almost every major economy is rolling out incentives and foreign visa programmes to attract the most promising tech companies and individuals. Our regional neighbours are also having aggressive growth.

There are two possible out-

comes: First, the tech sector thrives and grows. This can only be achieved if we continue to be progressive in our policies and programmes, coupled with strong public-private partnerships.

The second is where the sector shrinks and hollows out. This would be the result of being restrictive with over-regulation and limitations on the private sector, leading to global companies diverting investments to other locations.

Three things we need to do: Double down on what has worked for Singapore and take our trusted-hub reputation to the digital space; rally the tech sector around sustainability; and ensure we have adequate talent and embrace a hybrid working model so we can leverage talent across the globe.

Competition for tech talent is fierce and a global phenomenon. It keeps the entire tech industry awake at night.

MR HUANG YAOQUAN,
CEO OF QBASIS, GRADUATED FROM COMPUTING SCHOOL IN 2009

During my student years, computing was a dumping ground. Those that could not go to business or engineering came here. I was interested in technology but I was studying just for grades. My lecturer changed me. She got me to see education as gaining knowledge. With knowledge, you can do anything.

My father was a hawker – char kway teow, actually quite a famous one, in Hill Street. He had ALS (amyotrophic lateral sclerosis). It is a motor neuron disease; you lose your muscle control. Because I know programming, I had this eye-tracking device. I programmed an interface for him to communicate, controlling the mouse with his eyes. I feel lucky that I could do it.

You know what it is happening to NUS School of Computing? It's tougher to get in than business school now.

MR DAVIDSON CHUA,
BUSINESS ANALYTICS STUDENT

I am worried about the employment rate when I graduate in four years, especially with the low barrier to entry to learn data science and analytics. Many of my friends jumped from a different field of study to work in tech after graduation, as tech roles offer more flexibility and attractive compensation.

Companies setting up their headquarters here give students like myself confidence that there are opportunities. But it also means competition not only among locals, but people from other regions. This affects us. We might not have focused on tech from a young age, and national service widens our age differential.

But I remain confident. We get resources and opportunities and programmes that teach us technical skills.

MR ANSHUL JAIN,
MANAGING DIRECTOR,
CUSHMAN & WAKEFIELD

Tech companies were among the first to focus on “amenity” to retain and attract talent. As the profiles of their employees are different, not only in demographics but work culture, this gave rise to more food and beverage and lifestyle options in the urban landscape.

Tech companies have also grown their footprint in the Central Business District (CBD). One major transaction this year was Amazon's 369,000 sq ft lease at the upcoming IOI Central Boulevard Towers.

As vacancies in the CBD remain tight, this creates a win-win situation as they move to precincts such as HarbourFront and one-north, where there is more space, and the space is more cost-effective. This aligns with the Government's intent to decentralise commercial activities away from the CBD.

Krist Boo