

Digital Future: A Recovery Roadmap

Inspiring a digital-ready
workforce



IN THIS PAPER

- 3 Foreword
- 4 Road to Recovery in APJ – The widening digital divide
- 5 The Way Forward
- 5 Pillar 1: Putting inclusion at the heart of digital transformation
- 7 Pillar 2: Tech businesses must lead the way
- 8 Pillar 3: Crucial public sector support
- 9 Charting a path towards digital inclusion: A people-first approach is required
- 10 Methodology

Foreword



Amit Midha

President, Asia Pacific & Japan
and Global Digital Cities,
Dell Technologies

The world we live in is always changing. Change is a constant that affects economies, companies and societies at varying speeds. From the first industrial revolution with the rise of machines to the present-day Industry 4.0, technology is always evolving and re-shaping the world.

In fact, the accelerated digital transformation that we witness today is the slowest we will ever see. From here on, technology will only continue to speed up innovation and catapult us into the Digital Future – and we all must be ready to adapt.

At the company level, technology evolution has played a key role in reshaping the corporate landscape over the last century; it has also created new jobs as economies evolved. As such, we must constantly invest in emerging technologies and reskilling initiatives to propel society forward and be resilient in the face of future challenges.

But while change is constant, it is not always equal. Globally, the pandemic has also exposed the widening digital divide between larger urban areas who continue to innovate and advance technologically, and smaller rural, low-income communities with limited Internet access. How, then, do we narrow this gap and ensure that we collectively move forward without leaving anyone behind?

Dell Technologies in Asia Pacific & Japan (APJ) is envisioning a future in which people, organizations and economies will excel in the Data Era and beyond, underpinned by digital technologies. We recognize that technology is not a luxury but a great equalizer of opportunity and a basic human necessity. Therefore, as we progress on our journey towards post-pandemic recovery, our efforts around digital inclusion must be present across every community where we live and work.

In Part 2 of our three-part whitepaper series, we will explore the topic of **digital inclusion** – to understand the digital divide, opportunities for digitally inclusive recovery, and identify actions that governments and organizations in APJ can take to enable everyone to participate in the digital economy.

We hope you find the insights meaningful.

Road to Recovery in APJ – The widening digital divide

Technology has often been used to bridge income and social divides within the fabric of society, but the different extents to which it has been deployed has also served to widen the digital divide among nations.

While many countries in APJ have employed new technologies to manage the COVID-19 pandemic and mitigate its effects on society and the economy, nearly 52% of the region's 4.3 billion people remain offline with no access to such innovations, according to the a study by the **United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)**. **If not proactively addressed, this divide will likely exacerbate inequalities and leave societies more vulnerable as countries struggle to rebuild post-pandemic.**

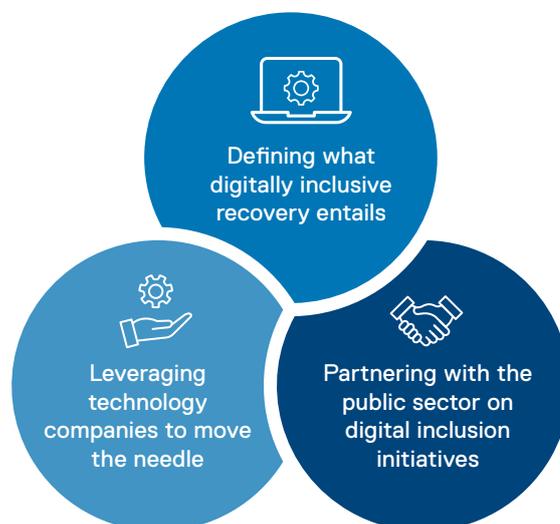
As it stands, the APJ region comprises countries on both ends of the digital inclusion scale.

According to **UNESCAP**, the top ten most digitally advanced economies in Asia and the Pacific see around 90 per cent of their populations using the Internet – this figure stood at just 25 per cent at the beginning of the century. In contrast, the bottom ten countries saw growth of just 1 per cent in the year 2000 to 20 per cent today.

Singapore was ranked the world's most digitally inclusive nation on **Roland Berger's Digital Inclusion Index**. Other APJ countries that made it to the global top ten are Australia (#6) and South Korea (#7). The Index credits government programs and policies, such as financial assistance schemes to encourage digital skills training, as factors which have helped support wider digital adoption and narrowed the digital divide in Singapore. The same index also points out how the cost of data and telephony, as well as ICT tools such as smartphones and computers, remains relatively expensive for the largely low-income populations in many of the region's emerging nations. This has led to lower digital inclusion rankings for these countries and a further widening of the digital divide.

However, the future is not all bleak. According to the Index, these same emerging nations have been exposed to greater accessibility to digital training compared to their global counterparts, and embody positive and receptive attitudes toward digital adoption. The Index noted that recent infrastructure developments have supported greater smartphone use in these emerging nations, and a young demographic has driven enthusiasm for technology and hunger for greater digital adoption.

The reality is that narrowing the digital divide calls for more than simply providing Internet access. It requires efforts aimed at closing the persistent and constantly expanding digital skills gap in the region. Otherwise, social and economic disparities will serve to widen the wage gap between digitally skilled and unskilled workers. For the APJ region to build back bigger, better and in a more inclusive manner, key pillars include:



The Way Forward

Pillar 1: Putting inclusion at the heart of digital transformation

Defining what digitally inclusive recovery entails

The consensus across the board is that the pandemic has widened the digital divide in both the workforce and society at large. Bridging the digital divide in society is a longer process that will need to start from the ground up.

As technology accelerates, gaps in these main areas will be observed:



Access: The gap between those who have access to the Internet and those who do not.

Over 2 billion people in Asia remain **offline**, with pronounced differences between urban and rural populations. The pandemic and its focus on virtual working and learning dramatically heightened the disparity between those with access to the Internet, and those who do not. The availability of infrastructure such as 5G networks and a population's receptivity to mobile devices are factors that affect the level of digital disparity between nations.



Skills: A skills gap that cannot keep up with the pace at which technology transforms.

Digital illiteracy is a pressing problem for society as it will likely result in higher levels of social and economic inequality. While populations have managed to stay afloat while avoiding technology, this choice may no longer prove sustainable. Individuals need to seize the opportunity to skill-up or be left behind. Boosting digital literacy among nations is also crucial to create and meet the demand for advanced services.



Growth: Larger organizations equipped with the budget and resources to digitally transform will charge ahead, while smaller companies may lag behind.

Narrowing the digital divide should be an integral part of nations' post-pandemic rebuilding efforts. All citizens, regardless of socioeconomic background or geographic location, have the right to participate in the digital economy and enjoy equitable access to broadband technology, 5G networks and opportunities to adopt digital skills.

Narrowing the digital divide should be an integral part of our response to the pandemic. Recovery for everyone means empowering and enabling all citizens, regardless of socioeconomic background or geographic location, to take part in our increasingly digitalized life.

Country spotlight: Australia



Australia is the world's sixth largest country, with an area of 7.692 million km². However, with a population density of 3 per km², its population makes up just 0.33% of the world's total population. Its sparse population, particularly in rural areas, has proven a challenge for a government seeking to provide equitable broadband Internet access for its citizens.

Australia's broadband Internet speeds ranked fourth slowest among OECD (Organization for Economic Co-operation and Development) countries and with 2.5 million Australians not using the Internet. Emerging evidence shows that the COVID-19 pandemic exacerbated older Australians' lack of access to services and their social isolation. Indigenous children living in rural areas, alongside children from lower-income households, were also placed at a substantial educational disadvantage due to their lack of digital access when remote learning was conducted.

On the other end of the scale, the country as a whole – particularly its urban areas – has been quick to adopt and embrace digital technology. The **2021 Network Readiness Index** report ranks Australia 13th out of 134 economies in ICT adoption and application. The country has been steadily climbing the ranks over the past few years, moving up from 18th place in 2016.

From an organizational perspective, a commissioned **study** conducted by Forrester Consulting on behalf of Dell Technologies found that IT spend in Australia increased by 158% over the last three years, and is expected to increase by a further 14% over the next three years.

However, challenges have been encountered by organizations in ANZ seeking to digitally transform. According to the Dell Technologies 2020 **Digital Transformation Index**, common barriers cited by Australia and New Zealand companies included a lack of budget and resources (40.7%), data privacy and cybersecurity concerns (36%) the inability to extract valuable insights from data (27.7%) and a lack of suitable in-house skill sets and expertise (26.7%)

“We take access to computers and the internet for granted, but just under half of the world's population do not have it. In a land as big as Australia, we have work to do to give remote communities the same opportunities as others. The public and private sector will need to work collectively to influence and embrace digital transformation and with an urgency to close the digital gap and recover inclusively.” – **Angela Fox, Senior Vice President and Managing Director, Australia & New Zealand, Dell Technologies**

Facets of digitally inclusive recovery

Digital inclusion is a socio-economic, educational, and technological challenge that requires proactive collaboration between communities, state and local governments, public and private-sector companies, and non-profit organizations to succeed. According to **Amit Midha, President of Asia Pacific & Japan and Global Digital Cities at Dell Technologies**, a long-term view is required to ensure a full ecosystem with lasting benefits is created, with digital literacy nurtured from a grassroots level.

The critical drivers for digital inclusion are:

1. Affordable home internet as an essential service at speeds sufficient for the whole family;
2. Combined with “the right” computing device;
3. Bundled with high-quality digital literacy (tech) content and efforts to upskill;
4. Delivered by trusted (local) resources and organizations, such as technology companies.

Technology is meant to be the great equalizer, not a source of division – so a focus on community, partnerships, access and skills is critical.

“ As governments look to build back better, collaboration is key to providing much needed reform for future generations – making digital technologies and services available for everyone. To deliver digital inclusion, we must go beyond access, to devices and high-speed broadband to ensure we’re creating a full solution with lasting benefits. ”

Amit Midha

President, APJ and Global Digital Cities,
Dell Technologies

Pillar 2: Tech businesses must lead the way

Leveraging technology companies to move the needle

Technology businesses are in a prime position to foster and meet the critical drivers of digital inclusion and nurture digital talent, considering their expertise, capabilities and resources in the field.

While there are standout initiatives in APJ to encourage digital inclusion, most have yet to embrace digital inclusion as a core responsibility. **A clear leader in digital inclusion has yet to emerge, and commitment and contribution levels vary widely between organizations in the digital sector and the markets they operate in.** The quest for inclusion should be underpinned by a real passion to achieve digital literacy among all levels of the workforce.

According to **Dr Gog Soon Joo, Chief Skills Officer, SkillsFuture Singapore**, it is no surprise that tech-enabled jobs are in demand across all industries in the digital economy. This includes tech-lite job roles which involve the use of applications at work as well as deep-tech job roles that design and deploy tech-enabled solutions. With this landscape in mind, **Amit Midha** emphasizes the opportunity and responsibility for technology companies to step up and lead the way towards digitally inclusive recovery. From providing access to digital infrastructure to upskilling the workforce and creating jobs, technology companies can drive and enable more people and organizations to participate in the digital economy.

“ The more people we bring online, the greater the potential for productivity and prosperity. But it takes significant time and effort over many years before this can happen. Fortunately, tech happens at a fast pace; but that also means if you’re left behind it will become harder to catch up tomorrow. ”

Amit Midha

President, APJ and Global Digital Cities,
Dell Technologies

For example, Dell Technologies' efforts include the launch of **Dell Aarambh** – an India-based initiative that seeks to connect parents, teachers and students and provide them the necessary training so that they can better utilize the PC for learning, both at school and at home. To date, the initiative has engaged close to 1.5 million students through the Dell Champs School contact program and trained and certified over 32,000 teachers through the Aarambh Training Program.

In the ANZ region, Dell Technologies launched a specialized program to train high school students to attend to their school's IT needs. Named **Dell Student Techcrew**, the program is designed to arm students with access to technology skills and training for future jobs in the technology sector. Nine schools across Australia are now onboard to provide their students with career-readiness skills and certifications to help them thrive in the IT sector upon graduation.



When you reflect on the skills shortage facing the technology industry, as well as the hybrid learning education models that have become more pervasive, programs like this play a pivotal role in equipping students with the tools they need for the future. These student-led helpdesks give these young people an opportunity to gain insights and experience in our industry. It empowers them to be comfortable around technology, inspiring them to study IT at a tertiary level that ultimately nurtures the next generation of IT professionals.



Angela Fox

Senior Vice President & Managing Director, Australia & New Zealand,
Dell Technologies

Angela Fox, Senior Vice President and Managing Director, Australia & New Zealand, Dell Technologies adds that technology companies must therefore collaborate with key stakeholders – across the industry and government – to expand the tech talent pool, empower individuals and cultivate an inclusive people strategy. With the demand for tech skills far exceeding supply, the digital skills gap can pose potentially the biggest risk to a country's economic success.

Pillar 3: Crucial public sector support

Partnering with the public sector on digital inclusion initiatives

To drive long-term success of digital inclusion initiatives, the public and private sector must work hand-in-hand to deliver the devices, broadband and connectivity solutions, and offer skills training and resources that the underserved communities need.

Initiatives by the public sector are key to supporting the private sector. In Australia, for instance, the government is investing over A\$100 million in initiatives to build the digital skills of Australians to meet the needs of the modern Australian workplace. Australia's research and industry capability in artificial intelligence is expected to be boosted with A\$124.1 million, including a National Artificial Intelligence Centre **led by CSIRO's Data61**.

Small businesses in the country are being supported to adopt digital technologies through a **A\$12.7 million expansion** of the Digital Solutions – Australian Small Business Advisory Service. A further A\$15.3 million will be used to drive business uptake of e-invoicing, which can deliver up to A\$28.2 billion in net benefits over 10 years.

SkillsFuture Singapore's Dr Gog Soon Joo shared that Singapore's approach was to anticipate the skill gaps and needs of its workforce, and plan ahead to design targeted initiatives to empower its citizens with digital skills education. At the same time, she emphasized that the private sector must be strategic about their workforce development approach – by ensuring that their skilling strategy for employees' development closely parallels their business strategy and dovetails with skills utilization, so that people are being trained for the right needs.

Charting a path towards digital inclusion: A people-first approach is required

Digital transformation has changed the demands of the workforce and the skills required. **ACS Australia's Digital Pulse report** found that an estimated 60,000 more IT workers will be needed per year over the next five years, with the demand exceeding 520,000 by 2026. One of the biggest risks that businesses and governments face moving forward will be a shortage of digital skills.

Talent management is therefore crucial – a focus on upskilling and empowering people will be key to narrowing the digital divide. Organizations must recognize that technology is merely a turnkey, and it is more important that they take stock of their capabilities and identify what can drive change within their organization, alongside the training that will be required for their goals.

Country spotlight: Singapore

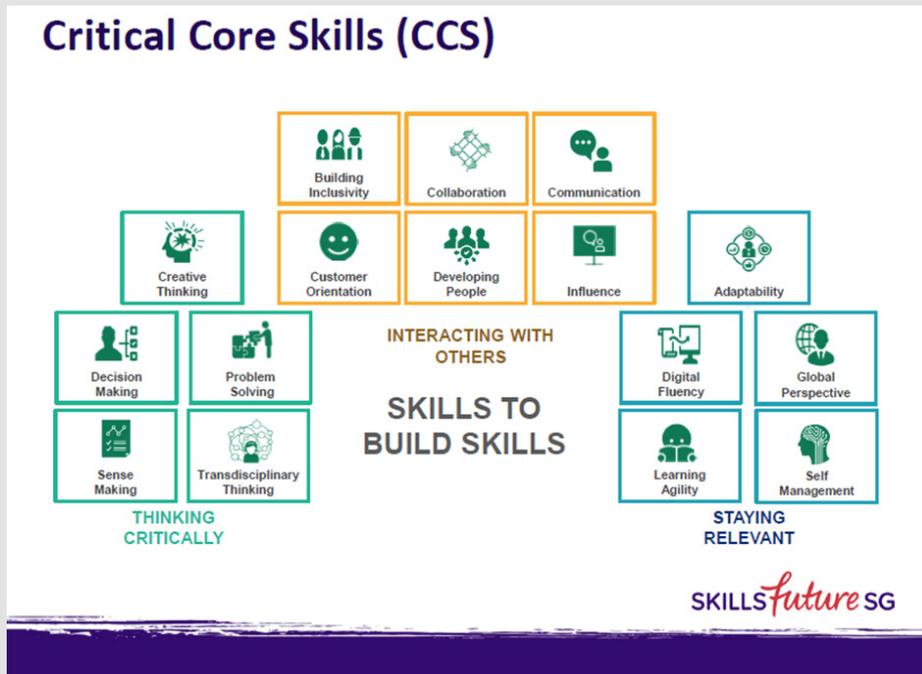


Singapore's government envisioned a digitally savvy nation years ago, and plans to digitalize services have since been rolled out under the country's SMART Nation initiative.

"Today, digital payments are the norm in Singapore, as are e-Government services through the Singpass digital identity. Citizens' interactions with the government – from school registration to balloting for public housing – will more likely than not involve utilizing at least one digital service." – **Dr Gog Soon Joo**

Resources such as **SMEs Go Digital**, the **Enterprise Development Grant** and **SkillsFuture Enterprise Credit** are available to help enterprises leverage digital solutions to transform their business and operating model. In tandem, to support the acquisition of digital skills, the Singapore government rolled out initiatives such as the **National Center of Excellence for Workplace Learning (NACE)** and the **SkillsFuture Queen Bee** program to support enterprises in building their digital capabilities.

SkillsFuture Singapore further identified 16 Critical Core Skills to focus on the Digital Future. These skills serve as a guide to individuals, employers and training providers on the essential technical and non-technical skills they should aim to equip themselves with in order to stay relevant in the digital economy.



Learn more about SkillFuture Singapore’s 16 Critical Core Skills here:
<https://www.skillsfuture.gov.sg/skills-framework/criticalcoreskills>

At the end of the day, digital inclusion is not simply about providing citizens with a laptop and Internet connection. The move to virtual learning, working and services during the pandemic has been a sharp right turn for many; people need to use the technology tools they have to improve their quality of life. Investing in education also presents the opportunity for nations to meet future demands for technology skills in the workforce.

Methodology

To gather insights and recommendations for this whitepaper, interviews with nine senior executives from Dell Technologies and external subject matter experts were carried out from September to November 2021. The interviewees were identified and selected based on their expertise in the areas of digital transformation, digital inclusivity and skilling, as well as sustainability.

In Part 2 of Digital Future: A Recovery Roadmap



Amit Midha
 President, APJ and Global
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Angela Fox
 Senior Vice President &
 Managing Director, Australia
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 Dell Technologies



Dr Gog Soon Joo
 Chief Skills Officer,
 SkillsFuture
 Singapore

Nearly **52%** of the **4.3 BILLION PEOPLE IN APJ*** (Asia Pacific Japan)

REMAIN IN OFFICES WITH NO ACCESS TO NEW TECHNOLOGIES

Source: UNESCAP



Yet some of the most **DIGITALLY INCLUSIVE & ADVANCED ECONOMIES** are in the region



MOST DIGITALLY INCLUSIVE NATIONS:

- #1 SINGAPORE
- #6 AUSTRALIA
- #7 KOREA



Source: Roland Berger's Digital Inclusive Index

How can we **narrow the digital divide** and achieve **DIGITALLY INCLUSIVE** recovery?

3 GAPS

ARISING from uneven technology acceleration

ACCESS

SKILLS

GROWTH

PILLAR 1
DEFINING WHAT DIGITALLY INCLUSIVE RECOVERY ENTAILS

“To deliver **digital inclusion**, we must go beyond access, to devices & high-speed broadband to ensure we're creating a **full solution with lasting benefits.**”



Amit Midha
President, APJ and Global Digital Cities, Dell Technologies

CRITICAL DRIVERS FOR DIGITAL INCLUSION

AFFORDABLE

home internet as an essential service



ACCESS

to the **right computing devices**



HIGH-QUALITY

digital literacy content and upskilling efforts



DELIVERED

by the **government, businesses and the community**



Tech companies have the **EXPERTISE** and **RESOURCES** to promote digital inclusion

PILLAR 2
LEVERAGING TECH COMPANIES TO MOVE THE NEEDLE

How Dell Technologies is doing our part:

ANZ: DELL STUDENT TECHCREW

Trains **high school students** to **support their school's IT needs**

INDIA: DELL AARAMBH

Engaged close to **1.5 MIL students** & trained over **32000 teachers** to utilize the PC for learning

They provide **ACCESS** to digital infrastructure, upskill the workforce and create jobs

They must **COLLABORATE** with the **government and industry** to narrow the digital skills gap



Angela Fox
Senior Vice President & Managing Director, ANZ, Dell Technologies

“When you reflect on the skills shortage facing the technology industry, ...programs like this play a **pivotal role in equipping students** with the tools they need for the future.”



Initiatives by the **Public Sector** are key to supporting the **Private Sector**

1. AUSTRALIA

Over **A\$100 MIL** invested by the government to **build the digital skills of Australians**



PILLAR 3
PARTNERING WITH THE PUBLIC SECTOR ON DIGITAL INCLUSION INITIATIVES

2. SINGAPORE

SkillsFuture provides resources to help enterprises leverage digital solutions to transform their business and operating model, and to support them in building their digital capabilities



“Today, **digital payments** are the norm in Singapore, as are **e-Government services** through the Singpass digital identity. **Citizens' interactions with the government** - from school registration to balloting for public housing - will **more likely than not involve utilizing at least one digital service.**”

CRITICAL CORE SKILLS TO FOCUS ON IN THE FUTURE (ACCORDING TO SKILLSFUTURE SINGAPORE)



THINKING CRITICALLY
e.g. **PROBLEM SOLVING**

INTERACTING WITH OTHERS
e.g. **CUSTOMER ORIENTATION**



STAYING RELEVANT
e.g. **DIGITAL FLUENCY**

Dr Gog Soon Jo
Chief Skills Officer, SkillsFuture Singapore

About Dell Technologies

Dell Technologies (NYSE:DELL) helps organizations and individuals build their digital future and transform how they work, live and play. The company provides customers with the industry's broadest and most innovative technology and services portfolio for the data era.

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