DIGITAL ECOSYSTEMS
Trends Predictions for 2021 & Beyond
Introduction

With the world gripped by a global pandemic, 2020 reinforced the invaluable role data centres play in keeping the world moving and, most importantly, connected. Increasing digitalisation and the continuous influx of enterprise data have placed unprecedented demands on data centres, namely to continue nurturing growing digital ambitions. The Asia-Pacific region is at the forefront of this growth. As a prominent enterprise data powerhouse, APAC has the highest compound annual growth rate in the world at 153% by the year 2024.

In 2019, 85% of firms viewed digital as nice to have. In 2020, every company learned that digital is critical to customer and business success.

Although Asia Pacific was the first region to be impacted by Covid-19, it’s expected that the region will also emerge first from the crisis. Enterprise success will depend on how efficiently and effectively organisations harness technology to enable remote, distributed workforces to thrive in the ‘new normal’ and how well they invest in new technology.

With the pandemic still a reality and budgets still under scrutiny for 2021, the predictions for this year are not solely on emerging trends but include taking advantage of current technologies and realising the value of what firms already have in place. This will be the year for companies to double down on technology-fuelled experiences, operations, products, and ecosystems. Asia Pacific is entering a decade of a digitally levelled playing field where firms in the region will be on par with, or even exceed, the rest of the world in terms of technology-driven business model innovation.

Here are our digital ecosystems predictions for 2021.
Continuing from last year, 2021 will see a changed workplace, and new technology will be needed to support it. It is expected that the data centre industry will continue to build on the current momentum by utilising emerging technologies such as AI, 5G, and IoT to drive the growth of edge data centres and support businesses’ technology applications and the data they bring.

Emerging Technologies

Forrester predicts that by the end of 2021, one out of every four remote workers will be supported by new forms of automation, either directly or indirectly.

Artificial Intelligence (AI)

In 2020, AI became a competitive advantage for businesses. With CIOs harnessing the power of AI to get ahead of their competitors, it is expected that this year, it will become a standard feature. Asia-Pacific is expected to emerge as the global leader in AI development, due largely to the significant and robust AI policies many countries in the region have in place. For instance, Japan’s Artificial Intelligence Technology Strategy seeks to harness the power of AI in industrialisation and manufacturing, while China is currently developing the first new generation of AI development plan. India also has its own National Strategy for Artificial Intelligence, which is focused on five key areas: agriculture, mobility, healthcare, transportation and urban/smart city infrastructure.

It’s clear that the global pandemic has accelerated the digital destinies of B2B buyers and marketers. B2B marketers — with a focus on customer satisfaction and revenue acceleration — must adopt new technologies as buyer engagement preferences shift toward digital channels. Chatbots and virtual assistants will leverage first-hand third-party data along with AI and machine learning (ML) to offer more personalised, guided experiences. More than a third of B2B technology buyers rate chatbots as a top-10 engagement channel in their buying journeys.
Fifth-Generation Technology (5G)

Despite the 5G momentum gaining ground for some time, 2020 didn’t have much to show in terms of fifth-generation technology’s business impact. However, with low latency, high throughput and other technology promises, 5G has caught the attention of businesses and consumers and is set to take the APAC region by storm this year.

In China, with heavy government support, rapid rollouts and the evolution of supporting technology, 5G will find an ideal breeding ground for innovations across major verticals such as healthcare and manufacturing as well as for smart cities.

In the long term, 5G will set the stage for more immersive experiences by encouraging organisations to explore the incorporation of augmented reality (AR) and virtual reality (VR) in their workplace and collaboration processes. Asia Pacific business and technology leaders must be prepared to learn from China’s innovation around 5G, including advanced use cases in the manufacturing, financial services, and retail sector.
Internet of Things (IoT)

IoT is a driving enabler for smart technology - and smart cities - and is growing rapidly. The Asia-Pacific region represents about a third of the global IoT market.

With businesses and governments becoming increasingly familiar with IoT, 2021 is likely to see an increase in smart solutions. This year, smart cities will undoubtedly get a boost from data projects that involve moving from proof of concept (POC) to production. As these data projects go live, governments will gain a better understanding of how they can utilise data and technology, such as IoT and 5G, to build more resilient cities.

Edge Data Centres

Latency has always been an issue for data centre managers, but in recent years it's become a critical concern due to emerging technology trends. With the global pandemic revealing just how reliant end users are on devices, demanding anywhere, anytime access to applications, services, and data, latency is no longer an option.

To mitigate these issues, organisations across many industries are establishing edge data centres. As smaller facilities that process data and services close to the populations they serve, edge data centres provide organisations with a cost-effective way to reduce latency and provide customers with content and functionality, thus improving the overall customer experience.
We can expect the data centre industry to continue building on the current momentum as we gear up for 2021. More enterprises are looking to connect multiple data centres or multiple clouds, and ensure resiliency of their hybrid-cloud deployments. Digital Realty offers them reliable, simple, and secure solutions they need to accelerate their cloud journey. We’re actively addressing the rising hybrid cloud demand with more retail colocation offerings. Within APAC, we’ve already rolled out this solution at our Osaka Connected Campus in Japan and plan to introduce it in upcoming facilities in Singapore and Hong Kong.

APAC’s data centre market is on track to become the world’s largest by next year, and we look forward to launching a number of facilities across APAC including SIN12 in Singapore, HKG11 in Hong Kong and finally ICN10, our first facility in South Korea. Additionally, all our upcoming APAC developments will now support PlatformDIGITAL, a first of its kind global data centre platform designed to enable customers to scale digital businesses. These advancements will help accelerate our customers’ digital transformation journeys and shape an even more fulfilling 2021 for Digital Realty.

Omer Wilson Head of Marketing APAC, Digital Realty
Improving Remote Workforce Productivity

For IT teams around the world, the focus for 2020 was enabling remote work amid an unfolding crisis. With many employees now successfully set up at home, the focus for 2021 will shift to improving the productivity of a highly distributed remote workforce.

With government guidelines calling for a mass shift to remote work, the internet proved crucial to maintaining employee connection and business continuity. However, CIOs are now recognising that the public internet lacks the reliability, performance, and security needed for complex mission-critical cloud applications and workflows - and is therefore hindering productivity. This year, organisations will take proactive steps to shift as much company traffic onto direct private connections to their cloud services with the aim of improving user experience. This will be critical in sectors with more demanding networking requirements, such as financial services and healthcare, among others.
C2C Connectivity Barriers Crumble

Widespread availability of reliable, low-latency cloud-to-cloud connections will give CIOs much more flexibility at a time when uncertainty is the norm and agility is imperative. An enterprise can now store data in low-cost storage on one cloud, such as AWS or Google Cloud, and connect it to their Oracle or other high-performance ERP systems in another cloud, reducing costs while delivering the needed performance and capabilities.

Network and Cloud Automation Will Alleviate Some Pressure on IT teams

Remote work environments are straining IT teams that also face budget constraints. Organisations will increasingly focus on automating their cloud workflows to optimize processes and alleviate their overloaded IT teams. Meanwhile, service providers will leverage new automation capabilities such as broad API integrations with SD-WAN technologies to retain customers, grow their ecosystem and increase customer value.

Eric Troyer  CMO, Megaport
Early in the Covid-19 pandemic, contactless experiences – such as payment and delivery – became necessary to mitigate the risk of spreading infection. But now, processes that were introduced out of necessity are set to mature. In short, the ‘touchless experience’ is here to stay.

2021 is likely to see a trend towards “zero UI,” or interfaces that don’t rely on screens to engage. Think technologies that respond to inputs like voice, gestures, and proximity. Maximising technologies to go “touchless” has become a popular idea and will now need to be scaled to reach operational maturity.

The technology underpinning ‘touchless experiences’ will range from high-definition cameras to facial recognition systems. As a result, expect to see a large-scale deployment of edge data centres to process this information nearer the end user.
More emphasis will be placed on the last mile of connection and its resiliency now that work includes your home

To enable the shift from office and school to home, the last mile of connection – the internet connection into your house – takes on increased importance. It requires a collaborative ecosystem working together to build the data centre and network needed to support our new culture and it must be as resilient as the data centre and network. It cannot be the weak link. I believe the last mile of connection has become just as essential as your electrical connection and its resiliency will be an area of emphasis in 2021.

The energy challenge at the edge will begin to emerge as edge computing deployments for our contactless, touch-free way of life become permanent

The technology behind ‘touchless’ will be significant, from high-definition cameras to facial recognition systems, utilizing a lot of information. As a result, we expect to see a large-scale deployment of edge data centres to process this information closer to the user. Edge data centres are expected to start consuming more energy than larger data centres in the next five-to-ten years. This energy challenge will take time to gain widespread attention, however, it will take on increasing importance and visibility in 2021, and in future years as we work on making it easier to design and deploy sustainable edge data centres at scale.

Kevin Brown  Senior Vice President, EcoStruxure Solutions, Secure Power Division, Schneider Electric
Surveillance & Privacy

The shift to work from home in the wake of Covid-19 will undoubtedly result in the need for heightened cybersecurity in 2021. More attacks will occur on home computers and networks, with bad actors going so far as to use home offices as criminal hubs by taking advantage of unpatched systems and architecture weaknesses.

There is set to be more growth in the security industry as identity and multi-factor authentication (MFA) will take centre stage as the use of passwords starts to diminish in a tipping-point year.

In this ‘new normal’ of digital life, ensuring strong network infrastructure fundamentals are more vital than ever. In light of animated discussions on environmental sustainability, and public concerns around surveillance and privacy, 2021 will likely see an increased public expectation for transparency reporting mechanisms from the cloud computing and data centre industry.
The data centre and cloud computing industry saw a huge spike in demand in 2020 as countries went into large-scale lockdowns due to the COVID-19 pandemic. As a result of these usage spikes, we saw an unprecedented stress-test of all the claims the industry has been making on capacity, resilience, and business continuity. And as an industry, we have passed this test with flying colours – but not without an inevitable blip or two along the way.

The importance of ensuring strong network infrastructure fundamentals have now been pushed to the centre stage of public discourse. Moving ahead, due to the 2019 zeitgeist discussions on environmental sustainability, and public concerns around surveillance and privacy, we are likely to see an increased public expectation for trust and transparency reporting mechanisms from the cloud computing and data centre industry.

Lim May-Ann Executive Director, Asia Cloud Computing Association
Sustainable Practices

The Asia Pacific Region (APAC) is one of the fastest developing data centre regions in the world. With rapid digitalisation and the surge in demand for cloud-based services across the region, it is estimated that by 2024 the overall Asia Pacific data centre market size will be worth around US$28 billion. Currently, 55% of all internet users in the world are in APAC. To keep up with the increase in data demand, data centres need ever-growing amounts of energy. But the amount of energy consumption data centres are using has gained much attention locally and beyond, due to the extent of their carbon emissions.

As a result, sustainable practices will continue to be a key trend in the digital ecosystems predictions for 2021. With data centres currently one of the highest consumers of power, contributing approximately 2% of global greenhouse emissions, providers are ramping up their efforts to minimise the environmental impact of APAC data centres. For instance, Digital Realty’s upcoming data centre in Singapore (SIN12) will be equipped with industry-leading sustainable design standards to improve energy efficiency.

The global trend towards committing to carbon neutral agendas has accelerated in recent years. The coming year will see a wave of innovation focused on energy efficiency across the data centre ecosystem. The benefits for data centre operators are clear, starting with cost reduction, compliance with existing and anticipated regulations, and the goodwill that comes with establishing a leadership position in the global sustainability movement. Expect to see important innovations across the data centre infrastructure space and especially in the area of thermal management.
This year has been a tumultuous year for many businesses globally as the world adapts to a new way of working and social interaction. With an increasingly distributed workforce, businesses have scaled up their investment in the cloud substantially since the beginning of the year. A research by Canalys data has shown that the cloud market grew 33% to US$36.5B in Q3 of 2020, compared to US$27.5B in Q3 2019.

For the data centre industry, this means that we will likely see more data centres being operated by the hyperscalers, or driving demand in third-party operators that host them. Many of these hyperscalers will also be growing their global presence to increase the number of on-ramps for localised accessibility to their public clouds environments to meet enterprise demands.

With data centres contributing approximately 2% of global greenhouse emissions, sustainability has been a growing key trend over the past few years. It is now gathering pace as more countries commit to carbon neutral agendas. Many data centres have been exploring innovative ways to reduce power consumption with smart technologies and tapping on renewable power sources to make their data centres greener. Operators that are limited to such capabilities are also turning to offset models. 2021 will certainly see more operators adopting practical ways to reduce carbon emission, for example, replacing old equipment, shutting down unused space or automating routine tasks that involves the maintenance and monitoring of these data centres.

Warren Aw Managing Director, Asia Pacific, Epsilon Telecommunications
In light of sudden and profound disruption in 2020, a new digital landscape is emerging in the APAC region and beyond. As companies navigate ongoing change it is their adaptability, creativity, and resilience that will continue to serve them in the years that follow.

The trends that we’ve seen emerge in recent years will establish firmer footing in 2021, namely the emergence of new technologies such as AI and 5G, and the growing importance of data centre sustainability. Alongside these, newer trends such as contactless experiences are expected to reach operational maturity after having been accelerated out of pandemic necessity, and a growing importance is to be placed on security in response to the global shift to work from home. As CIOs embrace cloud-first and platform strategies for speed and adaptiveness in 2021, 30% of firms will accelerate their spend on cloud, security and risk, networks, and mobility.

While the pandemic accelerated the need for digital transformation, the current economic climate has increased the urgency for every enterprise to embrace technology as a strategic asset. The future starts here.
In the connectivity market several trends continue to shape the market for the coming years. The Corona pandemic – although a disruptive event – did not change or alter the course of these developments. If anything, the virus mainly accelerated the digitalisation of society which was already underway.

First, the interconnectivity market continues to grow. This growth is not so much triggered by ‘traditional’ players, like carriers, CDN’s or internet service providers. Nowadays, enterprises (financial institutions, commerce, manufacturing) are having an increased appetite for connectivity in general and peering specifically. Fuelled by a new wave of digital capabilities, they seek to enhance the digital experience of their customers and increase the reliability of their connections.

Another trend is the rapid development of internet in markets like the Middle East, Central Asia, Africa and Latin-America. Many countries still don’t have an internet exchange, sometimes because of local market circumstances or regulations. But as the Internet – and Cloud adoption specifically – continues to grow, we see many initiatives building internet exchanges for those regions, either backed by local government or with support from one of the larger internet exchanges in the world. Countries like Egypt, Singapore, India and Brazil are quickly developing into international connectivity hubs. These places will become the growth hot spots for the coming years.

Peter van Burgel CEO AMS-IX
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As data centres continue to evolve to meet growing demand, we want to enable you and support you to continue delivering your business as usual.

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