

Group Enterprise

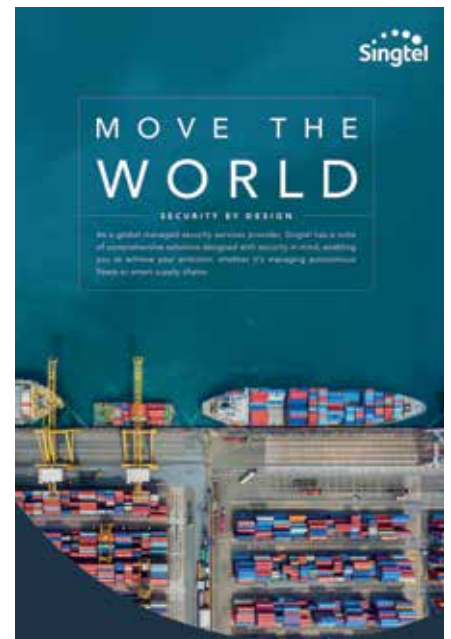
Doing business digitally is no longer 'good to have' but a 'must-have'. In a world where new technologies have levelled the playing field for even the smallest companies, going digital is key to staying ahead of the competition. Whether you're moving your operations to the cloud, keeping your information safe, or gleaning insights from data to become more competitive, we have the solutions to help enterprises embark on their digital journey, just as we have.





Group Enterprise

The digital revolution has totally upended the way companies do business, giving them more efficient means to run and scale their operations through the deployment of cloud, analytics, cyber security, IoT and smart city solutions. This has opened up a slew of new business opportunities for Group Enterprise, opportunities we have seized by leveraging our quality infrastructure which continues to form the backbone of our transformation, while rapidly developing our talent and building our capabilities in these new growth areas. Having embarked on our own digital transformation six years ago, Group Enterprise is now empowering other companies attempting similar transitions.



BUILDING OUT CYBER SECURITY

Having identified cyber security as a new growth driver and set our sights on becoming a global leader in this space, we are accelerating the build out of the business by consolidating our cyber security assets into a single global business. This brings together 10 advanced Security Operations Centres (SOCs) across Asia Pacific, Europe and the Americas as well as 2,000 cyber security professionals. Through these combined resources and capabilities, Singtel is primed to deliver a portfolio of world-class enterprise solutions to help protect customers and support their evolving needs, in a climate where cyber risks are rising and becoming increasingly complex.

To further broaden the reach of our business, we recently formed the

Global Telco Security Alliance with Telefónica, SoftBank and Etisalat to offer enterprises access to a wider portfolio of cyber security services in over 60 countries. Together, the alliance operates 22 world-class SOCs and employs more than 6,000 cyber security experts.

EMPOWERING DIGITAL TRANSFORMATION

Besides augmenting our cyber security capabilities, we have also undertaken several initiatives to help our customers accelerate their digital transformation.

On the cloud front, we collaborated with VMware to set up our first Digital Transformation Foundry in Singapore. The foundry is designed as a 'virtual sandbox' for customers to conduct

proof-of-concept experiments that will help bring their digital solutions to market more quickly. Similar foundries to be created in Australia and Hong Kong will initially focus on delivering a suite of cloud services to enable customers to modernise their data centres, integrate public and private clouds, transform information security and create digital workspaces of the future.

Last December, we partnered with Singapore's NTU and A*STAR to spearhead R&D in emerging technologies that will support the country's Smart Nation ambitions. The NTU partnership aims to pioneer breakthroughs in AI, advanced data analytics, robotics and smart computing applications, while that with A*STAR will focus on building automation systems,

robotics and industrial IoT applications.

To develop the IoT ecosystem in Singapore, Singtel and Ericsson recently established an innovation lab to facilitate IoT deployments. We also collaborated with Twilio, a leading cloud communications company, to develop a platform that makes IoT more accessible to software developers. During the IoT Asia conference in March, we showcased the IoT applications that we are developing for sectors such as manufacturing, healthcare, transportation, real estate and utilities.

BOLSTERING CONNECTIVITY

As we develop more innovative technologies to serve our customers, we are also upgrading our infrastructure to give them the robust connectivity they need to deploy their digital strategies. Singtel and the members of the Southeast Asia – Japan 2 undersea cable consortium recently announced the construction

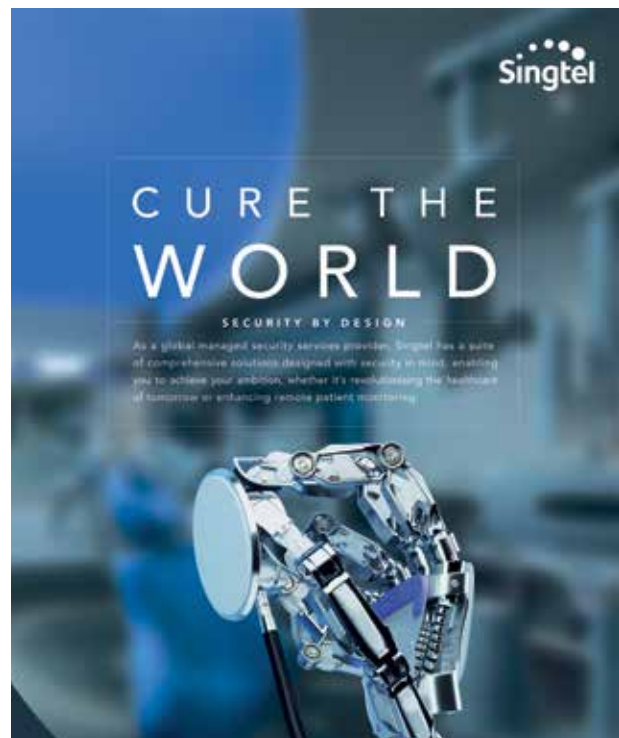


Singtel executives demonstrate the capabilities of Singtel's IoT network to Dr Vivian Balakrishnan (centre), Singapore's Minister for Foreign Affairs and Minister-in-charge of the Smart Nation initiative at IoT Asia 2018.

of a high-performance submarine cable that will connect Singapore to Southeast Asia and North Asia when completed in 2020.

The 10,500-kilometre submarine cable can carry 144 terabits of data per second, roughly the equivalent of simultaneously streaming 5.76

million ultra-high definition videos per second. Together with the 9,000-kilometre INDIGO submarine cable that will link Singapore to Australia when completed in 2019, these new cable facilities will allow us to meet the growing demand for bandwidth-intensive applications across Asia Pacific.



The CEO Conversation

Powering Singapore's Smart Nation vision

As Singapore sets its sights on being a Smart Nation, Singtel is gearing up to be the trusted enabler of the country's new digital economy. Group Enterprise CEO Bill Chang outlines Singtel's vision.



Digital transformation is the cornerstone of Singapore's Smart Nation vision. What is Singtel doing to support Singapore's digital initiatives?

Bill: As Asia's leading communications technology group, we are leveraging our core strengths and leadership in telecoms and information technology which will help serve as the digital backbone upon which our Smart Nation is built. As we continue to deepen our

capabilities in new growth areas like cyber security, cloud, IoT, advanced analytics, AI and robotics, we will provide solutions and services from these digital technologies that will allow us to contribute even more meaningfully to Singapore's digital transformation.

Singapore will need to develop the right talent pool if it is to fulfil its Smart Nation dreams and this is also a key area where Singtel is contributing. We have partnered with institutions of higher learning

to develop curriculum in emerging fields such as cyber security, digital marketing and robotics for instance to help groom a digitally savvy workforce.

How do you see these new digital technologies operating in the Singapore of tomorrow?

Bill: These new technologies will transform the way we live, learn and work. In the realm of public services, Singaporeans can expect smart apps and digital services

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BILL CHANG
CEO, GROUP ENTERPRISE

which will mean more ease of use for citizens and greater productivity and efficiencies for organisations. Digital payments will increasingly become a way of life for many, and this will rapidly transform the interactions between consumers and enterprises, allowing them to better serve their customers, drive productivity and scale their businesses regionally and globally.

In the transportation sector, we are in the midst of developing the next generation Electronic Road Pricing system for the Land Transport Authority (LTA). By using satellites, the LTA can manage traffic flow more flexibly by pricing road usage based on the distance travelled by motorists on busy roads, while providing commuters information to better plan their journeys.

How is Singtel contributing to Singapore’s Smart Nation development?

Bill: In the smart urban infrastructure area, we are using data from IoT sensors to help the Housing & Development Board (HDB) and the town councils monitor lifts and other common facilities to ensure continuous operations. This improves the management and maintenance of critical facilities at HDB heartlands.

IoT will also be a critical lever for enterprises to transform themselves digitally and innovate in line with the government’s roadmap to bring industries into the new economy. Singtel is trialling a range of IoT applications for deployment across manufacturing, healthcare, transportation, real estate and utilities sectors.

In the healthcare sector, we are deploying robotics technology in hospital pharmacies to help speed up the dispensing of medicines, reduce the wait times for patients and boost productivity of healthcare workers.

A Smart Nation also needs to be digitally safe. What is Singtel doing to ensure enterprises are being protected?

Bill: The global impact of last year’s Wannacry and Petya malware incidents clearly demonstrate the cross-border nature of cyber threats. Enterprises with operations around the world cannot continue using standalone cyber defences to protect their local offices. They will need a global, 24/7 view of such fast-evolving threats to better protect themselves. Given our network of advanced SOCs across Asia, Australia and Europe and the Americas, we are well-positioned to provide close monitoring of cyber threats. In March, Gartner

recognised our cyber security arm Trustwave in the Leaders' Quadrant for the Global Managed Security Services category. Coupled with the swift, coordinated responses to these global threats, we can strengthen companies’ defences around-the-clock.

Additionally, we have bolstered our cyber defences through the newly-created Global Telco Security Alliance with Telefónica, SoftBank and Etisalat. The alliance will further enhance our global footprint with a combined reach of more than 1.2 billion customers in over 60 countries. We are also developing deep information security capabilities for critical infrastructure in the transportation and utilities sectors.

Technology is constantly evolving. How does Singtel keep up with technological advancements?

Bill: We have intensified our innovation drive by forming strategic partnerships to make Singtel future-ready. Our partnerships, corporate labs and collaboration with NUS, NTU and A*STAR last year underscore our efforts to create intellectual property and speed up the development of innovative products and services that will help solve the real world challenges of many enterprises.