



TECHNOLOGY

SPECIAL FEATURE

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PNG's techno future

David James reports how PNG is set to benefit from technological advances, including the undersea fibre cable from Sydney to Port Moresby that will deliver faster internet.

The proposed Coral Sea cable from Sydney to Port Moresby, which is expected to be operational at the end of the year, is one of the most important economic events to occur in Papua New Guinea.

The cable is to have a technical maximum capacity of 10 terabytes per second, which is about 1000 times current capacity. It will transform internet speeds, and costs – and not before time.

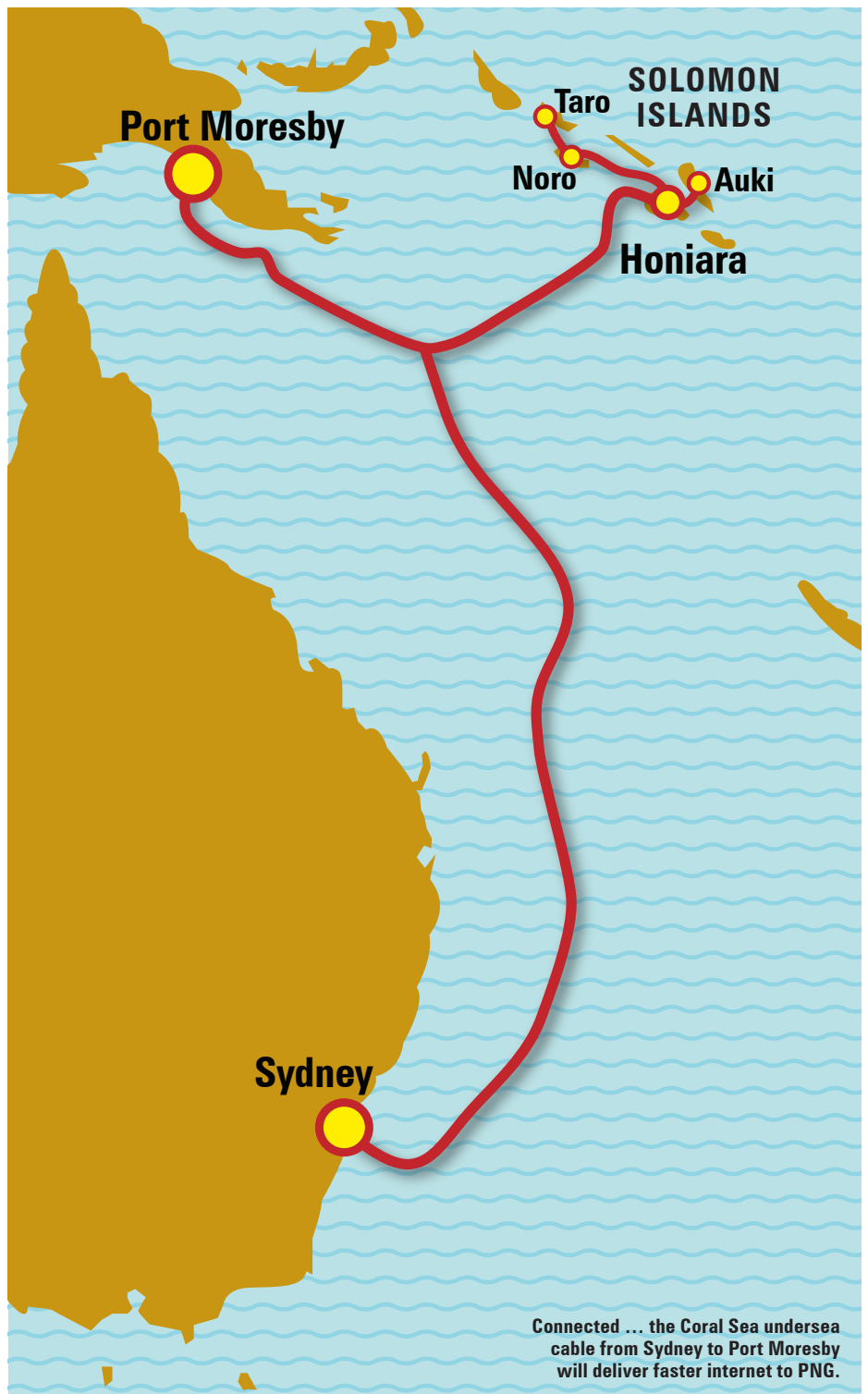
The internet penetration rate in PNG is still well below the global average but mobile coverage accessibility has increased sharply, from three per cent of the population in 2006 to over 80 per cent now.

According to the International Telecommunications Union, in 2017 only about two per cent of the PNG population had fixed broadband subscriptions, while 8.9 per cent had mobile broadband subscriptions. In 2017, only 9.6 per cent of the population used the internet.

Futurist Mark Pesce estimates that about a quarter of PNG's population owns a smartphone. He says the aim should be to increase that to 85 per cent of the population over the next five years.

"A smartphone can be used for communication, for commerce, for education, for community, for culture. We've only just started to scratch the surface."

The biggest mobile phone company in PNG is Digicel. The company has 1100 towers, ➤



Connected ... the Coral Sea undersea cable from Sydney to Port Moresby will deliver faster internet to PNG.





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of which only about 300 are on the electricity grid. The company achieves about 80 per cent coverage of the country. Paul Statham, until recently the regional director of Digicel Pacific, says the company has aggressive plans to expand its offerings when the submarine fibre cable is built. He believes these innovations will especially benefit business.

Statham points to his experience in Kenya, where costs of data fell by almost 99 per cent after a submarine cable was put in. He warns, however, that bringing the fibre cable to the shore is only one step.

China's Huawei will build the domestic internet network, which will connect to the undersea cable. The cable will run between Port Moresby, Alotau, Popondetta, Lae and Madang.

"Unless it is distributed across the nation, it is of no real benefit unless you live in Port Moresby – and even then, when internet capacity improves and prices fall, demand just increases and increases," Statham says.

He says Digicel has very aggressive plans to build out metro fibre across the major towns. The company also plans to introduce cloud services, which he believes will be of great benefit to businesses in PNG.

He says it could reduce IT overhead costs by more than a third, improve flexibility and increase quality.

"One of the challenges we all face is a lack of talent in information and communications technology (ICT). The talent we do have we want to focus on high-value tasks."

Many businesses in PNG are using the slow economic conditions to upgrade their computer systems, notes Steve Hillyard, general manager in PNG for Pronto Software.

"At the moment, there is a reluctance to use cloud computing due to concerns about network infrastructure reliability, although that might change with the new cable.

"Most of our major customers in PNG are in the process of upgrading. As the market has got tighter, people are looking at their systems. It is a time for them to consolidate and invest in their business.

"Sometimes they can't do that because they are busy, or another major project starts and they are looking at opening more stores, buying more stock and putting on more staff.



Upwardly mobile ... about 25 per cent of PNG's population owns a smartphone, but futurist Mark Pesce (above) says the aim should be to increase that to 85 per cent.

"All those things aren't happening right now. So, they are investing some money in their business to get them up to the latest release of the software. That way, they can take advantage of the economy when things kick along again."

With only about a tenth of the population using the internet, there is potential for great growth in the digital economy.

Statham says Digicel is investing around \$US10 million (PGK32.84 million) in hardware that will allow businesses to access cloud services.

He believes this should reduce IT costs by more than a third, adding that PNG has an

opportunity "to leap the technology curve" because it does not have some of the legacy infrastructures that more mature economies have had.

Jeff Gilpin, entrepreneur and founder of employment agency PNG Workforce, said in the recent APEC meetings in Port Moresby that the high cost of internet access in PNG has been a problem, but that may soon change.

"When the internet is affordable, you will have access to some of the big platforms (provided by) the big multi-million dollar companies. One thing that the internet does well is to break down barriers. If you want to learn stuff, it's all out there.

"For example, cloud software and programs like salesforce.com are already available to small enterprises as well as big companies."

Entrepreneur Crystal Kewe says PNG has a small vibrant community of ICT start-ups with a membership of over 30. They have established the PNG ICT cluster with operations in the education sector, conservation, micro-enterprise and other areas using web apps.

Kewe says they are working to raise awareness and link up with international organisations. She contends that an innovation policy and strategic framework are required to align the institutional actors: governments, science and innovation agencies and research and training institutions with the ICT industry.

Futurist Pesce believes that the PNG economy could develop a strong ICT sector to accompany the resource industry. He points especially to the use of mobile communication in agriculture.

"We have wireless IOT (internet of things) centres that transmit information about soil quality directly to a depository that can be made to support small holding farmers. There are alarm systems and CCTV (closed circuit TV) that can assist in securing the nation and its cities.

"There are wearable monitoring devices that can allow an understanding of health care in individuals and communities – and the containment of diseases. It can all be accessed through this Digicel network that is so pervasive and touches so much of the community."



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”

Wayne Golding, a member of the APEC Business Advisory Council, agrees, noting that in agricultural economies land yields can be improved threefold using digital technology.
He says the delivery of seeds to farmers and of farmers' product to market using drones are examples of the enormous positive impact of a digital economy.
“No one will succeed unless we get our communications infrastructure sorted out,” he says, adding that the gap between “the haves and have-nots” is widening.
Digital technology is also being used in resource industries. Oil Search is using drones operated digitally, according to chief executive Peter Botten. Gavin Wood, the chief information officer for Newcrest Mining, which operates the Lihir gold mine, says the company is taking an aggressive approach to using digital technology, claiming the company's IT investment over the last two years has more than paid for itself.

“With the cloud, you don't need to spend big bucks to get a good outcome. When the gold price was low, we looked at an agile delivery model.”
Finance is another sector being revolutionised by digital technology. Pesce argues for convergence: telecommunications companies becoming banks.
According to a report by RMI University, *Digital Entrepreneurship across the APEC region*, the PNG Government is partnering with the Australian Government to examine the feasibility of using advanced financial technologies such as blockchain to leapfrog traditional financial infrastructure into the future digital economy.
Only 15 per cent of the PNG population has a bank account but most people have mobile phones. According to the Bank of Papua New Guinea a range of innovative technological solutions are being explored to increase the population's access to financial services and ability to do business. ■

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