

In February 2021, the Malaysian government revealed its strategy for the rollout of 5G. Under the broad and ambitious Digital Economy Blueprint, it will create a special purpose vehicle (SPV) to deploy a single, nationwide next-generation network. This new unit, wholly owned by the finance ministry, will be allocated spectrum to offer wholesale 5G access to all licensed telecoms operators on an equal basis.

In theory, the approach ends plans for assignments of 700 MHz, 3.5 GHz and 26/28 GHz spectrum to operators, and could bring forward the country's timeline for the launch of 5G. However, the SPV now faces a considerable challenge in putting the state's vision into practice, which it expects to deliver "better and cheaper" 5G services to consumers compared to traditional network deployment based on market competition.

Analysis

Technology at the heart of the Digital Economy Blueprint

The Malaysian government has announced that it will invest MYR15 billion (around \$3.7 billion) over a 10-year period in the nationwide deployment of a 5G single wholesale network (SWN). The state-supervised SPV, known as Digital Nasional Berhad (DNB), will be licensed under the Communications and Multimedia Act 1998 and has contracted Ericsson to design the network and undertake rollout. According to the government, DNB will be given the necessary spectrum and will manage the infrastructure so that all licensed operators can focus on developing 5G services for the retail market. The manner in which DNB carries out its duties as a wholesale neutral party will reportedly be closely monitored by the regulator, the MCMC.

The state anticipates its plans will deliver two key benefits: an acceleration of Malaysia's 5G launch timeline, and higher quality and less expensive telecoms services. On the former, the government foresees Malaysian citizens beginning to gain access to 5G "in stages" by the end of 2021. This would bring forward the country's launch of 5G (which GSMA Intelligence had forecast for 2022) and would put an end to ongoing discussions around spectrum awards, particularly the 700 MHz band, which the communications ministry directed the MCMC to assign, only to swiftly reverse its decision.

On the latter, the government considers that the construction of a SWN would lower the cost of deploying 5G networks, enabling operators to "generate higher returns" and provide "better and cheaper" 5G services to consumers, while also supporting operators' continued focus on 4G and fibre. The government has also suggested that its chosen approach to 5G would encourage operators to invest in the "right areas", reduce duplication of infrastructure, boost usage and "enhance economic capability in triggering more product and service innovations".

Single wholesale networks not without risk

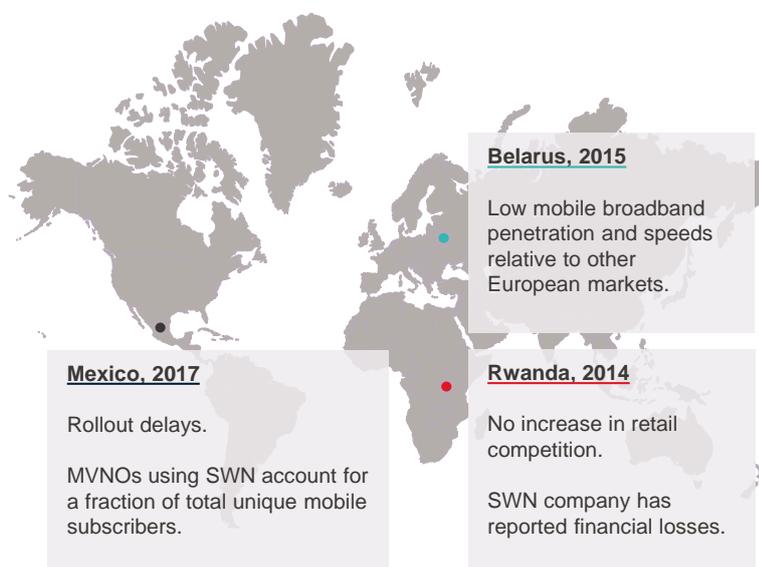
While Malaysia's ambitions for 5G are nothing out of the ordinary, its strategy sets it apart from other markets, where multiple operators are rolling out next-generation networks. In the 4G era, some policymakers considered that a move to a SWN would achieve greater coverage compared to models that rely on traditional network deployment

based on market competition. However, evidence suggests this did not come to fruition. Only three networks have been rolled out, with other markets beset by slow progress and delayed and/or cancelled launches. Kenya, Russia and South Africa abandoned SWN projects, while those that are live today have all experienced difficulties.

A 5G SWN also signals a departure from the approach to mobile market policy employed to date. Malaysia's licensing framework provides for a competitive dynamic, with the presence of national and regional operators as well as MVNOs resulting in significant growth and innovation in mobile applications and services. To expand mobile broadband coverage and capacity, operators have entered voluntary network-sharing agreements to balance competition with cost efficiencies, while the proposed Celcom-Digi merger could deliver the scale, synergies and financial position to boost telecoms infrastructure investment.

Source: GSMA Intelligence

Challenges with existing SWN deployments



Based on [Single Wholesale Networks: Lessons From Existing and Earlier Projects](#), updated to Q4 2020

Implications

Mobile industry

- **Rollout and launch plans** – Malaysian operators have become increasingly focused on 5G over the past few years, conducting field trials, selecting vendors, establishing innovation centres and raising capex to support future deployments. In response to Covid-19, Telekom Malaysia installed 5G base stations to deliver connectivity at quarantine facilities and enable the sharing of data with medical authorities. Given that short-term launches were expected, the formation of DNB will disrupt operators' own 5G deployment and commercialisation strategies, particularly plans to increase infrastructure sharing to accelerate next-generation network rollouts. This approach may also dull the incentives for network investment (for 6G and beyond) as government intervention in 5G has led to potentially misdirected resources by operators.
- **Spectrum availability** – Maxis had asserted its readiness to deploy 5G as soon as "spectrum is made available".¹ It is therefore unlikely that Malaysia's delay in awarding key frequencies will have been welcomed by the mobile ecosystem. While the SPV decision is reported to have been made with limited industry consultation, it is unclear whether the planned allocations of spectrum in priority bands exclusively to DNB will be enough to adequately serve all mobile operators. Further, not assigning valuable spectrum to operators directly constrains their ability to gain a competitive edge through coverage and service differentiation, while it could create inefficiency by preventing them from optimising the use of their existing portfolios with the spectrum granted to the SWN.

¹ "Maxis looks to 5G as Q2 profit dives", Mobile World Live, July 2020

² Equivalent to 0.95% of 2020 GDP (MYR1,342 billion, Department of Statistics Malaysia)

³ 5G Key Challenges and 5G Nationwide Implementation Plan, National 5G Task Force, 2019

Government and regulator

- **Neutrality and uncertainty** – The MCMC has taken an active role in enhancing Malaysia's digital infrastructure and readying the country for the next generation of telecoms networks, establishing a national fibre and connectivity plan, and forming a 5G Task Force. Its challenge now is to provide appropriate oversight of DNB, especially in light of the SPV's state ownership. The regulator will need to use the tools and powers at its disposal to ensure both the optimal use of spectrum and open and equal access to wholesale 5G services for all mobile operators – on fair pricing terms. This is made all the more challenging as Malaysia's initial 5G deployment will occur prior to the full development of the regulatory framework that will govern DNB. The MCMC will need fresh and innovative thinking to develop an effective regulatory framework for the new entity. However, uncertainty about the 'rules of the game' may harm investor confidence and ultimately slow the adoption of 5G services.
- **Lessons of the past** – While evidence suggests 4G SWNs are yet to fulfil their promise, network competition has a proven track record in delivering far-reaching coverage and unprecedented growth in mobile adoption. The benefits of 5G will go well beyond coverage, impacting innovation, digital transformation, economic growth and more. The Malaysian Institute of Economic Research found that 5G could contribute an additional MYR12.7 billion (\$3.1 billion) to GDP² between 2021 and 2025. To meet the objectives of its all-encompassing digital strategy, the government will need to ensure the SPV achieves timely deployment of 5G, while simultaneously encouraging cross-industry partnerships, use case development and continued private telco investment in 4G and fibre.
- **Coverage and cost** – Concerned that waiting for competition to deliver 5G services would cause delays, Malaysia intends to treat a next-generation mobile network like fully regulated utilities infrastructure, such as with power transmission. While the government's plan may bring forward the availability of 5G for some citizens, it is unclear whether this will produce faster and more extensive network coverage than competition. There is also the risk that a move to a SWN will be more expensive, with the 5G Task Force estimating that the total cost of a network upgrade to 5G by an existing telco would be around MYR7.5 billion.³ The world will be watching with interest to see how Malaysia's unique approach to 5G plays out.

Related reading

[The risks associated with Single Wholesale Networks](#)

[The Mobile Economy Asia Pacific 2020](#)

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