

Malaysia's JENDELA delivering on 4G coverage promise, narrowing digital divide

By Hardik Khatri November 26, 2021

- All regions experience over 80% 4G availability with 7 regions enjoying over 90%
- Newfound connectivity will have significant knock-on effect on digital economy

As Malaysian operators expand their 4G networks, smartphone users are now able to access 4G services in many more locations

Change in locations where users connected to 4G, since Aug 2020



Data collection period: August 1-October 29, 2020, and August 1-October 02, 2021 | © Opensignal Ltd
Population density data source: Department of Statistics Malaysia official portal (stat.gov.my)

Last year Malaysia kicked off the first phase of a multi-billion dollar digital infrastructure project — the **JENDELA** initiative. This two-phase initiative aims to provide wider connectivity and a better internet experience across the country.

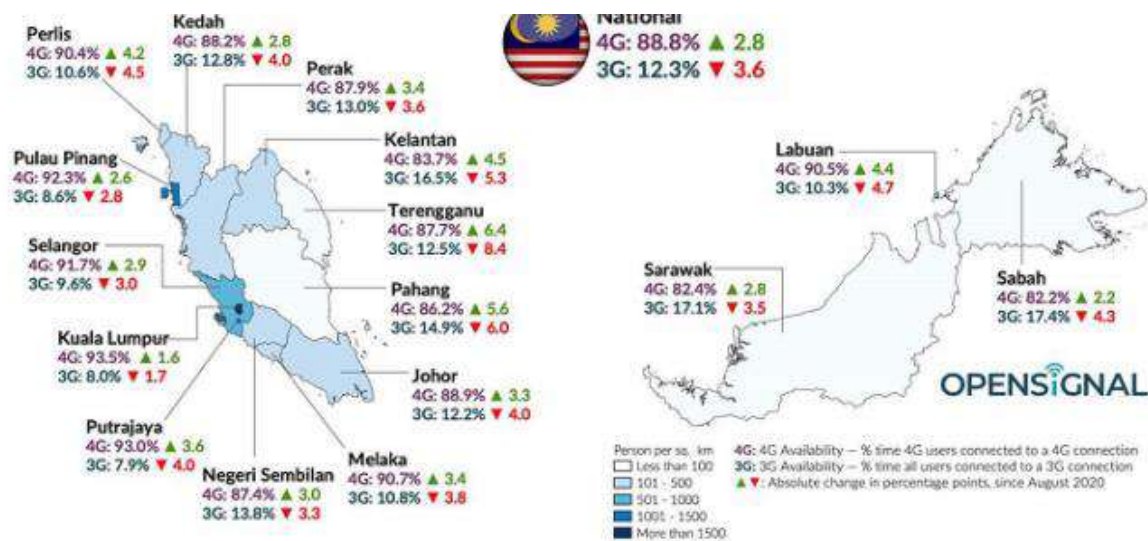
Initially, the approach in the first phase was to gradually shut down the existing 3G networks, improve existing 4G networks to support the deployment of 5G. It also included targets to widen 4G coverage to reach all populated areas with higher average mobile broadband speeds. More modern network technologies like 4G and 5G offer a better mobile experience and can support more users and more mobile data usage than 3G. But what's been the impact of these significant investments on the mobile network experience in Malaysia?

In the past year, we've seen growth in the proportion of time users spent connected to 4G — 4G availability — and a decline in time spent connected to 3G — 3G availability — across all of Malaysia's 13 states and three federal territories to varying degrees. We also found that, not only were 4G users able to spend more time connected to 4G networks, but they were also able to connect to 4G services in many new locations where before they either connected with legacy technologies or had no signal at all. This suggests that the Jendela initiative is enabling mobile operators in the country to expand 4G connectivity to new locations.

Comparing data from the 90 days starting Aug 1, 2021, with the same period from 2020, Malaysian smartphone users, on average, experienced a 2.8% increase in 4G availability and a decline of 3.6% in 3G availability, nationally. Previously, not all regions were above the 80% 4G availability mark. But a year later, it has grown past 80% in all regions, with users in seven reporting 4G availability of 90% or higher. However, users in some regions still depend on 3G for mobile internet access for a significant proportion of the time. Users in sparsely populated regions of Peninsular Malaysia have seen substantial progress in 4G availability — between 2 to 2.3 times greater compared to the national average. Terengganu saw the biggest increase of 6.4%, followed closely by Pahang, which saw a growth of 5.6%.

Users in the remaining, moderately populated regions of Peninsular Malaysia also saw higher gains than that seen nationally, including Kelantan, Perlis, and the Federal Territory of Putrajaya. Malaysia's political, population and economic center, Kuala Lumpur, alongside Pulau Pinang, were the only exceptions in Peninsular Malaysia where users saw the smallest upswings of 1.6% and 2.6%, respectively, given the limited room for improvements with already high 4G availability. Meanwhile, users in the sparsely populated regions of East Malaysia — Sabah and Sarawak — also saw small improvements of 2.2% and 2.8%.

Malaysia's 4G Availability has improved and 3G Availability has declined, over the last year, especially in sparsely populated regions



Data collection period: August 1-October 29, 2020, and August 1-October 29, 2021 | © Opensignal Ltd
 Population density data source: Department of Statistics Malaysia official portal (dosm.gov.my)

In the last year, users across all of Malaysia's 16 regions have seen a greater decline in 3G availability compared to the uplift in 4G availability. The biggest drop in 3G availability was seen in the same regions that saw some of the largest increases in 4G availability — Terengganu, Pahang and Kelantan saw a decline of 8.4% to 5.3%. However, there remains room for improvement as users still spend a significant proportion of time on slower and less efficient 3G networks, especially in the sparsely populated regions of Sabah and Sarawak in East Malaysia where users saw the highest 3G availability of 17.4% and 17.1%, respectively.

To gauge the underlying factors impacting this positive change in Malaysia, we delved deeper and compared the granular locations where users could connect to 4G services; we call them 4G-covered locations and investigated how these have changed over a year. Our findings show that all five national operators have expanded their 4G services to new locations that were previously not covered by 4G.

Our data shows that smartphone users in two of Malaysia's least populated regions, Sabah and Sarawak, have seen the greatest increases of 15.4% and 12.5% in the number of 4G-covered locations, respectively — 6.7% and 3.9 percentage points higher than that seen nationally (8.7%). Meanwhile, the most densely populated regions — Kuala Lumpur, Putrajaya and Pulau Pinang — have seen almost none or very few new 4G-covered locations, as the vast majority of the areas were already reached by 4G services.

These findings suggest that in the last year, the Jendela initiative has assisted Malaysian operators to address the varying mobile network experience across different regions and bring 4G connectivity to less populated regions of the country through expansion of 4G-covered locations. In turn, this has enabled users to spend time on more efficient 4G networks in areas that were previously covered by only 3G or which had coverage issues before.

Although Malaysia is one of the largest digital economies in Southeast Asia, a connectivity gap has existed between the densely and sparsely populated regions due to the challenges faced by mobile operators in providing a uniform mobile network experience across Malaysia's large geography.

According to our data, the Jendela initiative is helping to bridge this digital divide and strengthen the existing networks in the country as it advances towards commercializing 5G. Also, the newfound connectivity resulting from these efforts will not only have a significant knock-on effect on Malaysia's digital economy but also advance the government's digital inclusion agenda, which seeks to enable the Malaysian population to continue to work, learn, stay connected and get entertained even in the remotest areas.