Industry Report

Telecommunications

Malaysia

3rd Quarter 2018

The Economist Intelligence Unit
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The Economist Intelligence Unit

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Industry Reports provide The Economist Intelligence Unit's forecasts for six key industries along with relevant market analysis. They focus on sectoral and subsectoral demand in the world's major economies, and are updated quarterly, semi-annually or annually depending on the country (see schedule at the end of this report).

The Industry Reports are driven by the country-based macroeconomic forecasts for which The Economist Intelligence Unit is renowned. An Economist Intelligence Unit expert examines our forecasts for the key indicators in each industry, taking into account economic and political developments, global and regional trends, and market- or competitor-specific factors that are likely to have an impact on the sector in the future. The analyst then provides commentary to outline the implications of these trends for companies in the industry.

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Telecommunications report

Overview

- Malaysia has one of the highest mobile-phone penetration rates in the region, with an estimated 134 subscriptions per 100 people in 2017, higher than South Korea and the US, although this is falling as the market becomes saturated and population growth outstrips subscriptions. Mobile subscriptions are forecast to grow at a meagre annual average rate of 0.1%. The high penetration rate reflects the popularity of social media and intense competition in the prepaid market.
- Internet-based messengers and other services are putting downward pressure on traditional mobile voice calls and SMS usage. However, with much lower revenue from traditional messaging and voice calls more than offsetting the increase in data revenue, average revenue per user (ARPU) has declined sharply in recent years, and the increasingly competitive landscape is likely to ensure that revenue remains subdued in 2018-22.
- Fixed-line providers will try to tackle the fall in subscriptions by moving into services targeted at business and government users. The National Transformation 2050 plan aims to improve the population's digital literacy. The government's digital initiatives include cloud-based services in the public sector and developing its own Artificial Intelligence framework.
- Malaysia's internet penetration rate stood at an estimated 82% in 2017 and it is forecast to reach 97% by 2022. The number of internet subscribers is expected to increase, albeit at a slower rate of 2.8% a year on average during 2018-22. Developing the internet economy will remain a policy priority for the government in the medium term.

Telecoms penetration

	2013[a]	2014[a]	2015[a]	2016[a]	2017[a]	2018[b]	2019[b]	2020[b]	2021[b]	2022[b]
Telephone main lines ('000)	4,908	4,871	4,852	4,689	4,706	4,425	4,181	3,896	3,621	3,339
Telephone main lines (per 100 people)	16.5	16.1	15.8	15.0	14.9	13.8	12.9	11.9	10.9	9.9
Mobile subscriptions ('000)	44,464	45,645	46,158	44,413	42,363	42,293	42,324	42,367	42,430	42,513
Mobile subscriptions (per 100 people)	149.7	151.0	150.2	142.4	134.0	132.0	130.4	128.9	127.5	126.1

[a] Actual. [b] Economist Intelligence Unit forecasts.

Sources: GlobalData; Economist Intelligence Unit.

Mobile

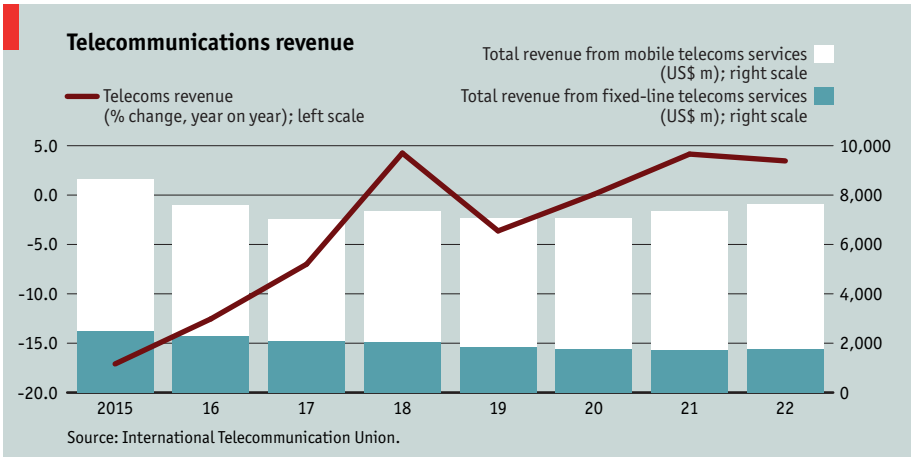
- The Economist Intelligence Unit expects mobile penetration rates to fall from around 132 subscriptions per 100 in 2018 to 126 per 100 by 2022. This reflects the fairly static nature of mobile subscriber growth over the forecast period, owing to already-high levels of penetration, strong levels of competition, increased use of mobile internet services, and steady and consistent population growth.
- As the rate of growth in subscriber numbers slows, telecommunications providers are likely to channel their efforts into both reducing their cost base and raising ARPU through new value-added services that use mobile data. Just over three-quarters of mobile subscriptions (33.3m) are prepaid, but this has been falling as postpaid data packages have grown slightly in popularity

over recent years. According to Malaysian Multimedia and Communications Commission (MCMC) data, there were 10.8m postpaid subscriptions in the second quarter of 2018, compared with 10.4m in 2011.

- The increasing take-up of smartphones will aid this. According to the MCMC, a smartphone continues to be the most popular means of accessing the internet, with a total of 36.2m mobile broadband subscriptions in the second quarter of 2018, compared with 2.6m fixed broadband subscriptions. The three main providers are competing aggressively on price both to win new subscribers and retain existing users.
- There are three leading players in the mobile-phone market: Maxis, Celcom (wholly owned by Malaysia's Axiata Group) and DiGi Telecommunications, which is 49% owned by a Norwegian telecoms company, Telenor. DiGi mainly caters to the prepaid market.
- Despite challenges over the falling rate of subscriber growth and revenue stemming from competition, some operators have managed to stem a relative decline in subscribers and service revenue in recent quarters. Data for the second quarter of 2018 shows that Digi saw its subscriber base fall slightly, to 11.66m, compared with 11.76m in the previous quarter. Meanwhile, Maxis saw its base rise slightly, from 9.85m to 9.86m, as did Celcom, which saw a rise from 9.6m to 9.62m. In terms of market share, this equated to a 28% share for Digi in 2017 (latest available data), followed by Maxis (24%) and Celcom (22%). U Mobile came next, with 12% of the market, and the remaining 14% share was held by mobile virtual network operators (MVNOs).
- Service revenue also recovered slightly in the second quarter for all three major operators. Maxis saw service revenue rise from M41.98bn (US$478m) to M$2.01bn quarter on quarter, while Digi's rose from M$1.483bn to M41.484bn and Celcom's rose from M41.5bn to M$1.55bn. Nonetheless, pricing pressures, service quality and connectivity challenges will all pose threats to revenue and subscriber number stability over the forecast period.
- U Mobile's ambitions are growing, however. In June 2017 U Mobile announced that it would terminate a 2011 network sharing agreement with Maxis by December 2018, stating that it was looking to develop its infrastructure. Its success in obtaining spectrum in the 1,800-MHz and 900-MHz bands following spectrum reallocation in February 2016 has also lessened the need to share Maxis' network. In January 2018 meanwhile, U Mobile and Sweden-based Ericsson renewed their infrastructure development agreement for the next five years, while in August U Mobile announced a pair of new unlimited data plans, aimed at tempting subscribers away from the main players.
- The MCMC announced a reallocation of frequencies in the 900-MHz and 1,800-MHz bands among four mobile operators in a bid to optimise spectrum resources and level the playing field. Operation of these spectrum bands, which are assigned for a 15-year period, commenced in July 2017.

- The move has benefited DiGi and U Mobile at the expense of Maxis and Celcom, which in effect had to return some spectrum, as well as pay a maintenance fee for the reallocation of new spectrum. Maxis subsequently announced that it planned to borrow externally to fund the spectrum fees, and sold M$1.7bn (US$390m) of shares in June 2017, in part to pay down its debt.
- Meanwhile, progress on freeing up the 700-MHz band has stalled somewhat. MCMC plans to refarm spectrum within the 700-MHz band have been delayed on the back of a deferment of a plan to switch off analogue TV broadcasting in the first quarter of 2019. As a result, refarming will have to take place after this switch. Meanwhile, the results of an October auction for several blocks of 700-MHz spectrum have yet to be announced, as of June 2018.
- In December 2012 the MCMC allocated 2.6Ghz spectrum bands (which allows companies to provide 4G services) to eight companies. This included three 3G operators—DiGi, Celcom and Maxis—in addition to a number of Worldwide Interoperability for Microwave Access (WiMAX) providers such as REDtone.
- The high level of mobile penetration in Malaysia has led to network congestion and outages, despite the expansion of mobile telecoms infrastructure. However, operators will continue to invest in improving service provision and network upgrades during the forecast period. Celcom has announced plans to spend M$1.2bn-1.3bn in 2018, aimed at funding network enhancement and digitisation. It has also allocated M$1.8bn-2.2bn over the next five years to improve its 4G infrastructure; selecting Ericsson (Sweden) and Huawei Technologies (China) to carry out the upgrade and manage the network. Maxis meanwhile, has said that it will focus on investment that will help it cater to customers' increased levels of data consumption.
- In Malaysia 4G is widely available. Maxis began offering 4G LTE services on its prepaid subscriptions in 2014, and in 2015 it invested about M$1.3bn—most of it dedicated to widening its 4G LTE expansion. The company claimed that its LTE network covered 89% of the population in June 2017, up from 71% at end-2015. Celcom, which launched commercial LTE services in 2013, covered 77% of the population in the first quarter of 2017 and is targeting coverage of 95% by 2020. DiGi rolled out its 4G LTE service for smartphones in 2014 and claimed that the service covered 86% of Malaysia's population by the second quarter of 2017. A speed test by OpenSignal found that Maxis delivered the highest 4G download speed, at 24.43 Mbps, compared with 16.29 Mbps for Celcom, 15.7 Mbps for Yes and 12.91 Mbps for Digi.
- Meanwhile, U Mobile launched Malaysia's first 4.5G service in May 2017, initially available only to customers in Johor Bahru. Celcom launched an LTE Advanced network in August 2017, beginning in the Klang Valley. Celcom also claims to have carried out Malaysia's first 5G network trial, involving speeds of up to 18 gigabits per second, in May 2017. Ericsson's Malaysia division has stated that it expects 5G to be used widely in the country by 2022-23, although the rollout of required infrastructure will take some time.
- Although competition for customers is intense, firms are also exploring options for sharing infrastructure as a means of defraying costs and managing risk. For example, Maxis and locally based REDtone have an arrangement to

share 4G LTE infrastructure, while Celcom and DiGi have a joint agreement with the partially state-owned Telekom Malaysia (TM) for wholesale bandwidth connectivity via its backhaul services.



Fixed

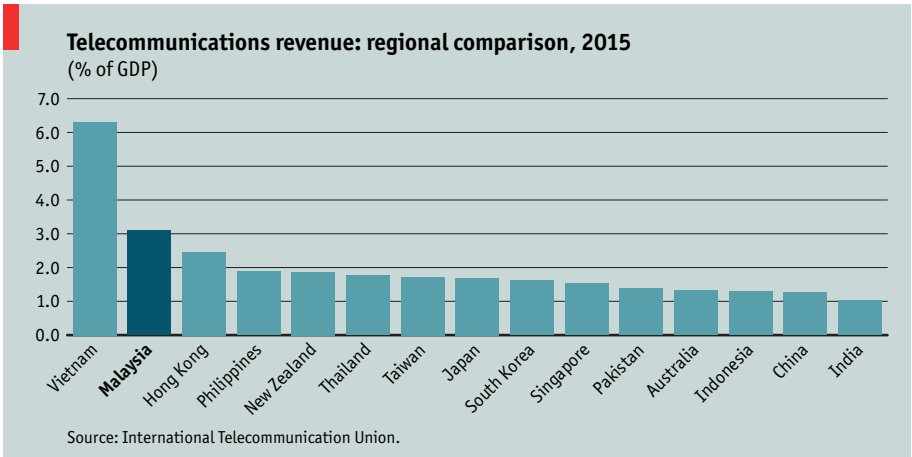
- Fixed-line subscriptions have been declining, falling from 16.5 per 100 people in 2012 to an estimated 14.9 per 100 in 2017. We expect the penetration rate to fall to 9.9 per 100 by 2022, as households increasingly opt for mobile services. There were 6.5m fixed telephone connections in the second quarter of 2018 (including VoIP, DEL, WLL and ISDN) according to MCMC data, unchanged from the previous quarter.

Telecoms expenditure

	2013[a]	2014[a]	2015[a]	2016[a]	2017[a]	2018[b]	2019[b]	2020[b]	2021[b]	2022[b]
Telecoms investment (% of GDP)	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6
Fixed telecoms revenue (US$ m)	3,190	3,083	2,505	2,295	2,067	2,064	1,836	1,754	1,738	1,746
Mobile telecoms revenue (US$ m)	9,062[c]	7,347[c]	6,142[c]	5,268[c]	4,966	5,268	5,230	5,317	5,627	5,874

[a] Economist Intelligence Unit estimates. [b] Economist Intelligence Unit forecasts. [c] Actual.

Sources: International Telecommunication Union; OECD; Economist Intelligence Unit.



- TM still dominates the fixed-line sector, although its monopoly of fixed-line and cellular services ended in 1994 with the licensing of several competitors. It also suffered a decline in the number of fixed-line connections in 2017, to 4.09m, compared with 4.18m the previous year.
- Businesses and the government are the key market segments for fixed-line services. Although these account for about 40% of the number of lines, according to a US research group, the International Data Corporation, they generate about 60% of total fixed-line revenue.

Internet

- Malaysia's internet user penetration rate stood at an estimated 81.9% in 2017 and is expected to reach 97.1% by 2022. The number of internet subscribers is expected to increase, albeit at a slower rate of 2.8% a year on average over 2018-22.
- Limited competition has driven up the cost of broadband in Malaysia, denting take-up rates. According to the World Bank, the country ranked 74th out of 167 countries in terms of its price per Mbps of broadband services, behind regional peers such as Vietnam. The quality of broadband speeds is also poor, with an average download speed of 22.56 Mbps in February 2018, putting it 63rd out of 130 countries. We forecast that the number of fixed-line broadband subscriptions will therefore increase at an average rate of just 4% a year in 2018-22, recovering to stronger growth in the latter part of the forecast period, as operators deliver more affordable high-speed packages.
- Nonetheless, the Malaysian government is trying to improve broadband connectivity, stating in June its intent to implement a national broadband agenda that is focused on doubling broadband speeds and cutting prices, by as much as 25% by the end of this year. It is also continuing to rollout its High-Speed Broadband (HSBB) initiative and launched a so-called Malaysia Digital Hub in April of last year, which supports start-ups by providing high-speed broadband connectivity. In the 2018 budget the government allocated around US$250m to building telecoms infrastructure and broadband in Sabah and Sarawak.
- Under the 11th Malaysia plan, which forms part of a Vision 2020 strategy to develop Malaysia along economic, social and political lines, internet speeds of 100 Mbps in urban areas and 20 Mbps in rural areas have been targeted. A broadband coverage target of 95% has been set to be achieved by 2020, up from the 94.4% coverage that the government claims was reached in July 2018.
- HSBB is a public-private partnership (PPP) between the government and TM. TM provided funding of M$8.9bn for the first phase of the HSBB project, completed in 2013, and the government invested M$2.4bn. TM offers "triple-play" packages in areas where the National Broadband Initiative (NBI) is available, which comprise high-speed internet, video and phone services.
- The Ministry of Communications and Multimedia allocated M$3.6bn for the HSBB, Sub-Urban Broadband (SUBB) and Broadband to the General Population projects in 2017. HSBB coverage was to be expanded in urban areas, covering 2.8m households, and speeds will be lifted to 20 Mbps. The SUBB project will cover other regions, including approximately 2m households, with the aim of lifting speeds to 4-10 Mbps. Work on the SUBB project began in 2016 and is expected to be completed in 2019, with broadband installed in 252,000 suburban premises, according to the MCMC.

- WiMAX technology is likely to meet much of the demand for broadband connectivity in 2017-21, owing in part to government support for the platform and the unavailability of ADSL outside urban areas. However, growth in the expansion of WiMAX is slowing as 4G services are rolled out and it is likely that the industry will be dominated by 4G-LTE and LTE-Advanced Pro networks as standard post-2021. Indeed, one of the major WiMAX providers, Webe, began offering 4G services to existing customers from mid-2016. In addition to TM, which owns a 55.3% stake, Webe is part-owned by a local telecoms devices and services vendor, Green Packet (31.1%), and South Korea's SK Telecom (13.6%).
- There are many internet service providers (ISPs) operating in the country, but TM's ownership of the "last-mile" connections restricts competition primarily to densely populated areas in major cities. The largest ISP is Streamyx, which is owned by TM. Together with the company's Unifi operation, the two ISPs had 2.37m broadband subscribers at end-September 2016. Unifi reached 1.18m subscribers in March 2018.
- In 2010 the government announced the NBI, in association with TM, with the aim of providing nationwide broadband access by 2018. The capital, Kuala Lumpur, has been provided with services capable of a data-transmission rate of over 10 Mbps. The initial phase of the roll-out (in urban areas) relied on fibre-optic cable, but elsewhere connectivity is provided via a mix of wired and wireless services.
- According to the MCMC, Malaysia's broadband penetration rate stood at 117.9% in the second quarter of 2018, driven primarily by uptake of mobile broadband. Kuala Lumpur had the highest penetration rate for mobile broadband, at over 213%, while Labuan languished at 66%. Continued investments, government-led and private, will help to increase high-speed broadband coverage during the forecast period.
- Malaysia's first court dedicated specifically to cybercrimes began operating in August 2016, and focuses on issues such as hacking and online theft. Although fraud remains the most common cybercrime in the country, CyberSecurity Malaysia (a government agency) is most concerned about global ransomware—such as the recent WannaCry and Petya attacks—and Distributed Denial of Service (DDoS) attacks, both of which it is taking steps to combat.
- Government oversight of news content remains stringent, although the *Freedom on the Net 2017* report published by an international watchdog, Freedom House, saw Malaysia's score for online freedom improve slightly in 2017, as a result of better internet penetration rates and speed. In relation to a billion-dollar corruption scandal implicating the prime minister, Najib Razak, the government began to block certain critical news websites in 2015 and many remain blocked.
- The government has brought forward a new law against what it calls “fake news”, following the launch of a government website in March 2017 to verify news stories, which has had 19m hits so far. The law was considered by some to be a means of controlling public perception by the ruling party, ahead of the May general election.

Internet penetration

	2013[a]	2014[a]	2015[a]	2016[a]	2017[b]	2018[c]	2019[c]	2020[c]	2021[c]	2022[c]
Internet users ('000)	16,950	19,245	21,833	24,572	25,888	27,099	27,892	29,220	31,162	32,739
Internet penetration (per 100 people)	57.1	63.7	71.1	78.8[b]	81.9	84.6	85.9	88.9	93.6	97.1
Broadband subscriptions ('000)	2,939	3,061	2,739	2,719	2,743	2,753	2,816	2,933	3,100	3,328
Broadband subscriptions (per 100 people)	9.9	10.1	8.9	8.7	8.7	8.6	8.7	8.9	9.3	9.9

[a] Actual. [b] Economist Intelligence Unit estimates. [c] Economist Intelligence Unit forecasts.

Sources: International Telecommunication Union; Economist Intelligence Unit.

Connected devices

- Smartphone sales in Malaysia were estimated to have reached 9.8m in 2017, according to IDC. Samsung was the leading smartphone brand, with a market share of 40%. It was followed by three Chinese brands, OPPO, Vivo and Huawei, which have sold well because of their lower price points and association with bullish marketing campaigns, with a collective share of around 30%.
- According to a government survey, in 2017 around half of Malaysian internet users bought goods and services online, up from 35% a year earlier, with the main barrier to new usage a preference for in-person shopping.
- E-commerce in Malaysia is less developed than many of its regional neighbours, such as Taiwan. That is expected to change as more e-commerce platforms move into the country, spurring growth in market value from M$68bn in 2015 to around M$114bn in 2020. A recent survey by a consultancy firm, Accenture, suggests that 90% of respondents want the government to do more in areas such as artificial intelligence, internet of things (IoT), big data and machine learning, in order to improve policymaking and the provision of public services.

Connected devices

	2013[a]	2014[a]	2015[a]	2016[a]	2017[a]	2018[b]	2019[b]	2020[b]	2021[b]	2022[b]
Personal computers (stock per 100 people)	40.7	42.4	43.7	44.9	47.1	49.2	51.3	53.3	55.2	56.9
IT hardware spending (US$ bn)	5.7	5.8	5.5	4.6	5.2	5.5	5.5	5.7	5.6	6.0
Total IT spending (US$ bn)	9.4	9.5	8.9	7.9	8.7	9.5	9.8	10.3	10.5	11.3

[a] Actual. [b] Economist Intelligence Unit forecasts.

Sources: GlobalData; International Data Corp (IDC); The Economist Intelligence Unit.

Industry publishing schedule

Our telecoms reports cover the following 60 countries and are updated quarterly, semi-annually or annually, depending on the country.

Quarterly	Semi-annual	Annual
Brazil	Argentina	Austria
China	Australia	Azerbaijan
France	Canada	Belgium
Germany	Chile	Bulgaria
India	Colombia	Denmark
Indonesia	Czech Republic	Ecuador
Japan	Egypt	Finland
Mexico	Hong Kong	Greece
Russia	Israel	Hungary
South Korea	Italy	Iran
Turkey	Malaysia	Ireland
United Kingdom	Nigeria	Kazakhstan
United States of America	Pakistan	Netherlands
	Philippines	New Zealand
	Poland	Norway
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	Singapore	Portugal
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	Spain	Slovakia
	Taiwan	Sri Lanka
	Thailand	Sweden
	United Arab Emirates	Switzerland
	Vietnam	Ukraine
		Venezuela

