



Fundamentals



The results shown are in accordance to the Mandatory Standards (MS) Quality of Service (QoS) set forth by the MCMC effective 2016.

PUBLIC CELLULAR SERVICE

- **Dropped call rate (DCR)**
 - Designated routes $\leq 2.0\%$
 - Nationwide routes $\leq 3.0\%$
- **Call Setup Success Rate (CSSR) $\geq 95.0\%$**

WIRED BROADBAND SERVICE

- **Network latency $\leq 85\text{ms}$ for $\geq 95\%$ of the time;**
- **Throughput**
 - DSL $\geq 70\%$ of subscribed speed $\geq 90\%$ of the time;
 - Fibre $\geq 90\%$ of subscribed speed $\geq 90\%$ of the time;
- **Packet loss $\leq 1.0\%$**

WIRELESS BROADBAND SERVICE

- **Network latency $\leq 250\text{ms}$ for $\geq 70\%$ of the time;**
- **Throughput (DL) $\geq 1 \text{ Mbps}$ $\geq 80\%$ of the time**
- **Packet loss $\leq 3.0\%$**



Key Metrics Measured



Throughput – refers to how much data can be transferred per unit of time across a network from one location to another, experienced by end user as internet speed. Higher throughput means better internet speeds.



Packet Loss – refers to amount of data sent which are unable to reach its intended destination. Low packet loss indicates the network able to transfer data from the user end to the destination host with high reliability.



Key Metrics Measured



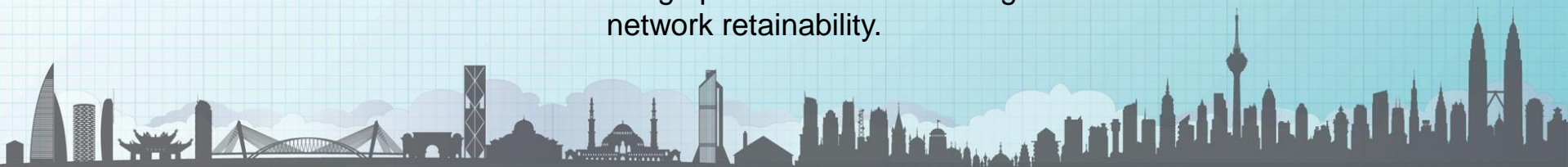
Network Latency – refers to the Return Trip Time (RTT) of data transfers on a network, how long it takes for the data to travel to its destination. Low latency is considered better than high latency.



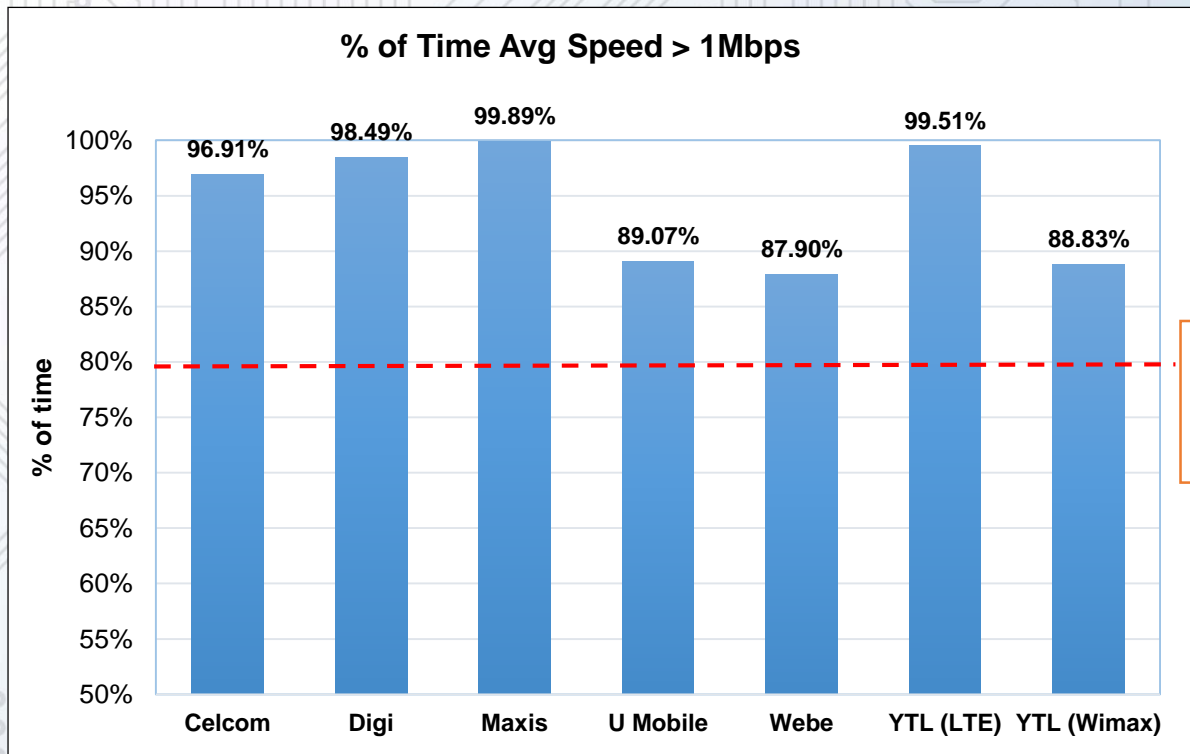
Call Setup Success Rate (CSSR) – refers to voice calls made by user and successfully established, allowing communication. High CSSR indicates good network accessibility.



Dropped Call Rate (DCR) – refers to voice calls made by user and successfully established but was cut off before the speaking parties able to complete the intended call or before any one of them hang up. Low DCR indicates good network retainability.



Wireless Broadband Service 2018



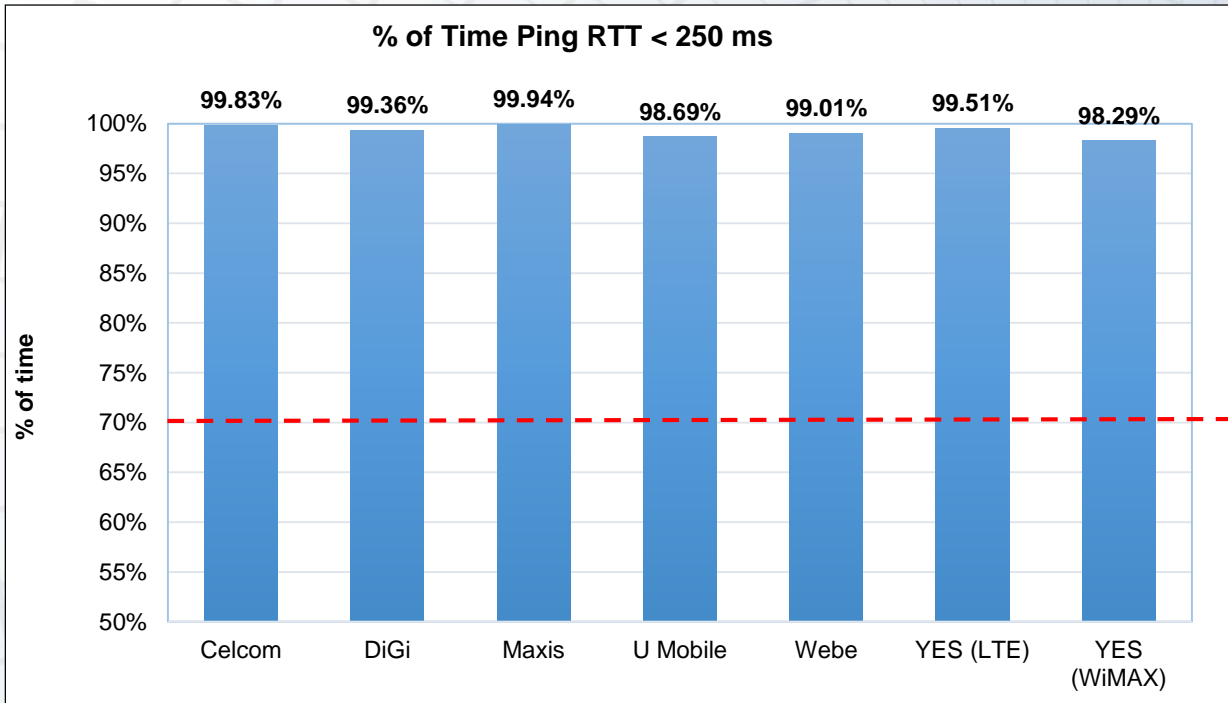
Wireless broadband download performance measures the ability of mobile user to receive at least **1 Mbps** DL speed for **at least 80% of the time**

MS limit
(80% of time) –
**ALL
COMPLIED**

Wireless Broadband Service 2018



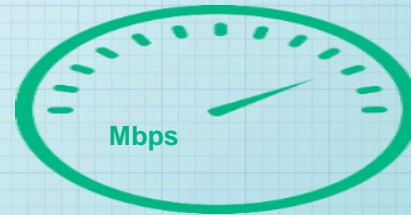
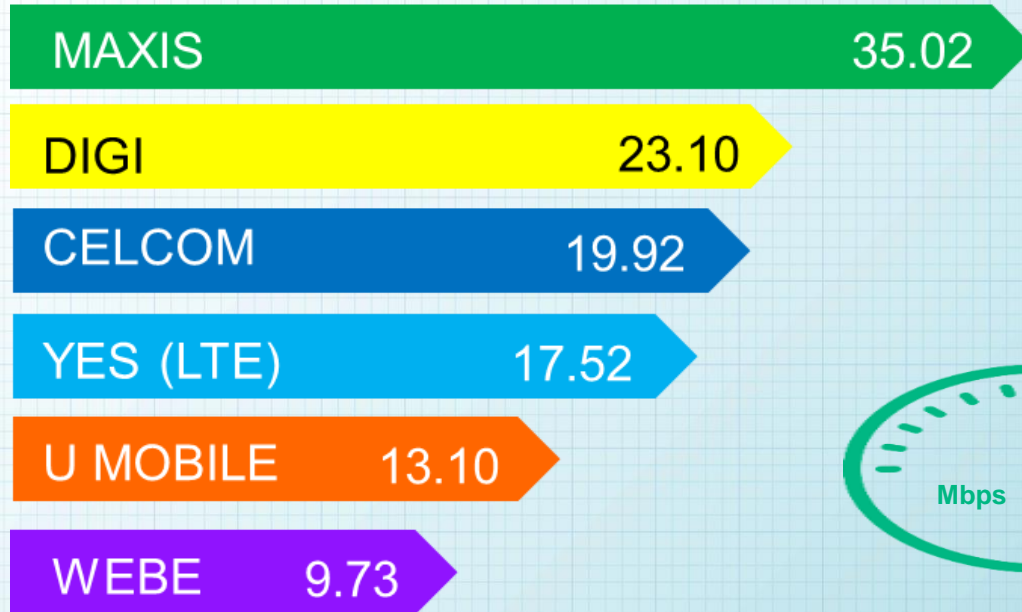
% of Time Ping RTT < 250 ms



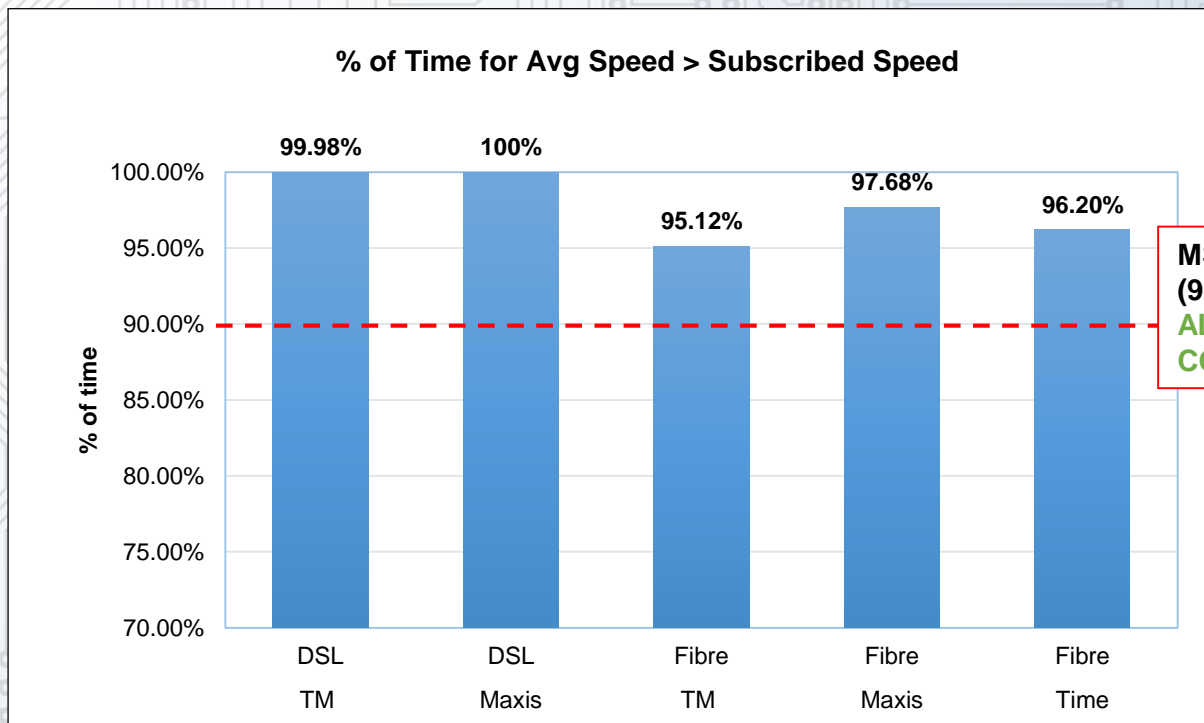
Wireless broadband Round Trip Time (RTT) measures the data transfers on a network and how long it takes the data to travel to its destination of not more than **250ms** for at least **70% of the time**

**MS limit
(70% of time)**
**ALL
COMPLIED**

Wireless Broadband Average Speed



Wired Broadband Service 2018



MS limit
(90% of time)
**ALL
COMPLIED**

DSL broadband speed:

Download speed not less than **70% of the subscribed speed** at least 90% of the time

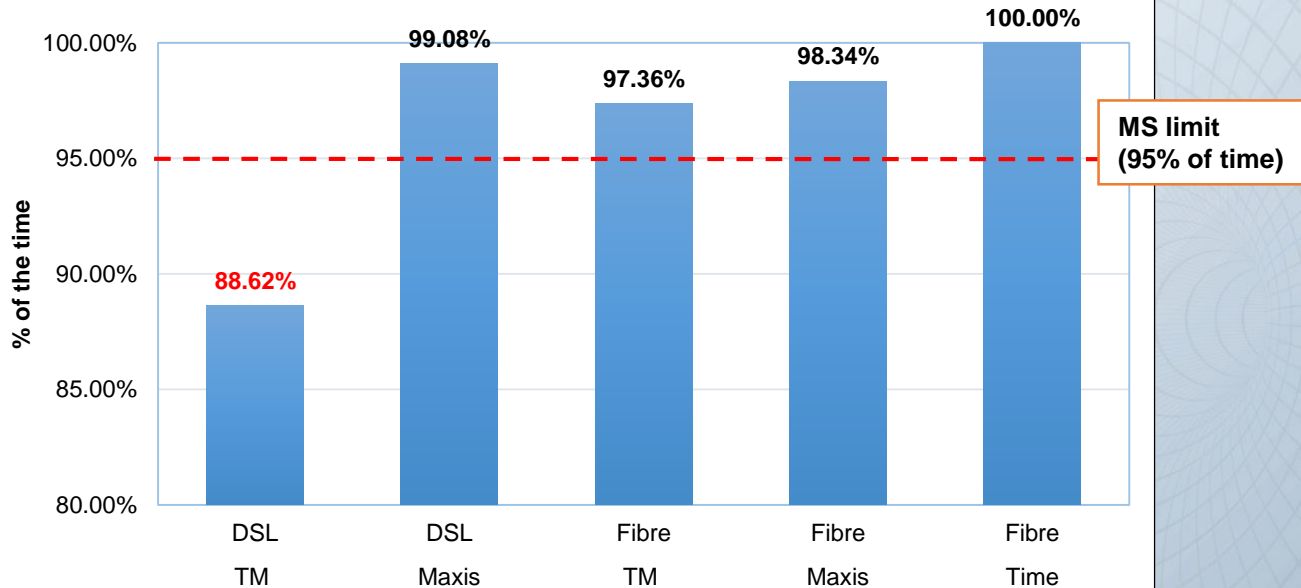
Fibre broadband speed:

Download speed not less than **90% of the subscribed speed** at least 90% of the time

Wired Broadband Service 2018



% of Time Ping RTT <85 ms (DSL & Fibre)



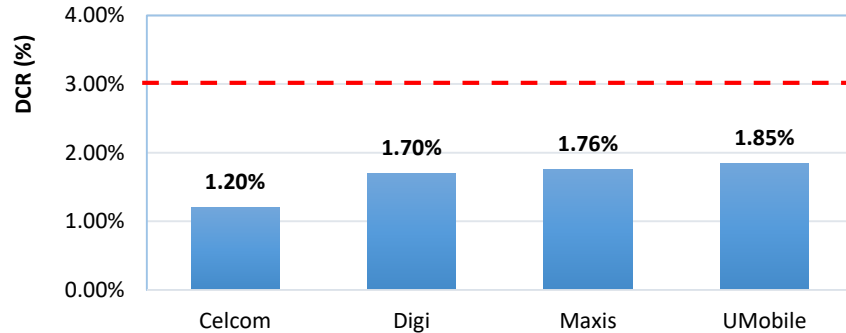
Wired broadband Ping Round Trip Time (RTT) measures the data transfers on a network and how long it takes the data to travel to its destination.

DSL and **Fibre** Ping RTT are **not more than 85ms** for at least 95% of the time.

Public Cellular Service 2018



Nationwide DCR ($\leq 3.0\%$)



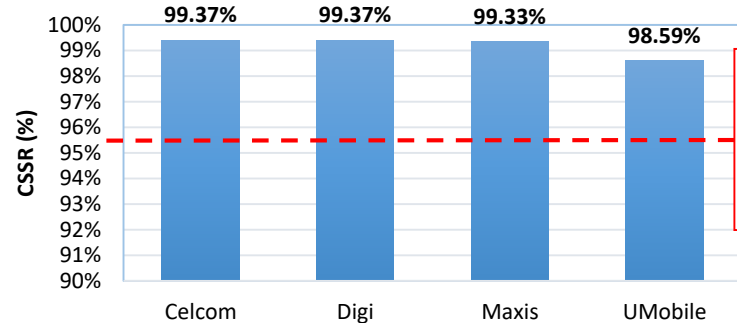
MS limit
($< 3\%$ DCR)
**ALL
COMPLIED**

Nationwide Route:

Any other areas outside of Designated Route

Dropped Call Rate (DCR) for Nationwide route is not more than 3%

Nationwide CSSR ($\geq 95\%$)



MS limit
($>95\%$ CSSR)
**ALL
COMPLIED**

Call Setup Success Rate (CSSR) for Nationwide route is not less than 95%

Summary of Network Performance Report 2018



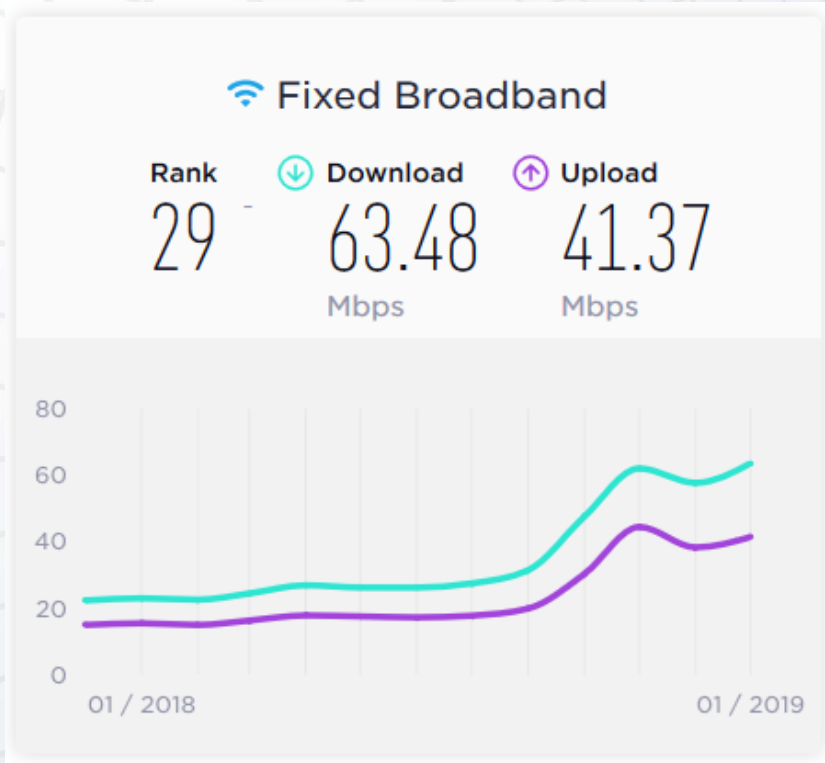
- ❑ **Wireless Broadband Service:**
 - All operators met the metrics in MS QoS
- ❑ **Wired Broadband Service:**
 - All operators met the metrics in MS QoS, except for one DSL network which did not meet the required measures
- ❑ **Public Cellular Service:**
 - All operators met the nationwide MS QoS for both DCR and CSSR



Ookla Speed Test Global Index



As a result of migration and take-up of packages with higher download speed, Speedtest Global Index by Ookla reported in December 2018 that fixed broadband download speeds in Malaysia increased by almost threefold to 63.48Mbps as compared to 22.26Mbps a year ago. **Malaysia was ranked 29th in the world as compared with 56th in 2017.**



ITU ICT Development Index (IDI)



Base on Top 10 Countries in Asia Pacific

	IDI 2017 Rank	Economy	IDI 2017 Value	IDI 2016 Rank	Rank Change
1.	2	Korea (Rep.)	8.85	1	↓
2.	6	Hong Kong, China	8.61	6	—
3.	10	Japan	8.43	11	↑
4.	13	New Zealand	8.33	12	↓
5.	14	Australia	8.24	16	↑
6.	18	Singapore	8.05	20	↑
7.	26	Macao, China	7.80	29	↑
8.	53	Brunei Darussalam	6.75	54	↑
9.	63	Malaysia	6.38	62	↓
10.	78	Thailand	5.67	79	↑

Source: ITU, Measuring Information Society Report 2017
(Base on 176 economies)

“A 10 percentage point increase in fixed broadband penetration would increase GDP growth by 1.21% in developed economies and 1.38% in developing ones.”

- World Development Report 2016, World Bank

For Malaysia, 1.38% increase in GDP is valued at approximately RM17.9 billion (USD4.3 billion) per year base on GDP 2017.

“Malaysia’s mobile broadband penetration rate being one of the highest in the region, ahead of many OECD countries.”

“In terms of the level of adoption of fixed broadband services, Malaysia lags behind other countries with a similar level of economic development, with limited usage of fiber optic broadband services.”

- Malaysia Economic Monitor Report 2018, World Bank

Malaysia's ITU Ranking Improved

Table 4.6: Fixed-broadband basket, 2017

Rank	Economy	Fixed-broadband basket			Speed in Mbit/s	Cap per month in GB
		as % of GNI p.c.	USD	ppp\$		
1	Uruguay*	0.00	0.00	0.00	0.5	1.0
2	Macao, China*	0.14	7.85	9.68	3.0	Unlimited
3	Kuwait	0.36	9.33	14.39	1.0	Unlimited
4	Russian Federation	0.45	3.43	8.04	30.0	Unlimited
5	Hong Kong, China	0.46	17.71	21.39	100.0	Unlimited
6	Andorra**	0.57	17.67		0.5	2.0
7	United Arab Emirates	0.58	18.79	24.59	0.25	Unlimited
8	Switzerland	0.68	45.70	31.83	5.0	Unlimited
21	Belgium	0.89	30.99	31.34	50.0	100.0
22	France	0.89	28.16	28.78	15.0	Unlimited
23	Kazakhstan	0.90	5.92	16.95	1.0	10.0
24	Cyprus	0.91	18.08	22.81	5.0	Unlimited
25	Sweden	0.98	43.16	38.51	100.0	Unlimited
26	Japan	0.99	31.68	33.16	1.0	Unlimited
27	Iran (Islamic Republic of)	1.02	4.59	12.77	1.0	4.0
28	Belarus	1.02	4.50	17.93		10.0
29	Netherlands	1.02	39.44	39.19	20.0	Unlimited
30	Lithuania	1.03	13.03	22.50	100.0	Unlimited
31	United Kingdom	1.03	34.75	33.66	12.0	20
32	United States	1.03	49.99	49.99	100.0	Unlimited
33	Germany	1.09	39.38	42.05	16.0	Unlimited
34	Ireland	1.10	56.71	45.33	24.0	20.0
35	Malaysia	1.16	9.37	24.28	1.0	1.0
36	Estonia	1.19	18.03	26.41	10.0	Unlimited
37	Spain	1.20	27.14	32.70	1.0	5.0
38	Slovakia	1.22	16.40	27.42	4.0	300.0

Table 4.3: Mobile-broadband basket, prepaid handset-based, 500 MB, 2017

Rank	Economy	Mobile-broadband, prepaid handset-based (500 MB)			Monthly data allowance (MB)
		as % of GNI p.c.	USD	PPP\$	
1	Macao, China*	0.07	3.61	4.46	500
2	Poland	0.12	1.32	2.66	500
3	Sweden	0.13	5.73	5.11	500
4	Switzerland				
5	Denmark				
6	Estonia				
7	Austria				
8	Singapore				
9	Luxembourg				
10	Hong Kong				
11	Lithuania				
12	Uruguay				
13	Iceland				
14	Brunei Darussalam				
15	Spain				
16	Qatar				
17	Egypt				
18	Hungary				
19	Netherlands				
20	Latvia				
21	Georgia				
22	Belarus				
23	New Zealand				
24	Turkey			0.42	3.84
25	Bahamas			0.44	10.75
26	Russian Federation			0.45	3.43
27	United States			0.45	21.76
28	United Kingdom			0.46	15.44
29	Germany			0.47	16.87
30	Iran (Islamic Republic of)			0.47	2.11
31	Norway			0.48	30.10
32	Canada			0.49	17.41
33	Sri Lanka			0.49	1.56
34	Slovakia			0.49	6.76
35	Ireland			0.49	22.54
36	Malaysia			0.49	3.94
37	Slovenia			0.49	9.02
38	United Arab Emirates			0.50	16.34
39	Azerbaijan			0.51	1.74
40	Israel			0.54	16.67

Malaysia rose 6 places from **41 to 35** in the International Telecommunication Union (ITU) **fixed broadband price basket category** and a massive jump of 25 places from **61 to 36** in the **mobile prepaid handset for 500MB**.

Source: 2018 Measuring the Information Society Report (MIS) by ITU



A4AI: Malaysia 1st Place



Figure 4. Comparison of the top 15 ADI country rankings (using revised methodology), 2015-2018

COUNTRY	RANK 2018	RANK 2017	RANK 2016
Malaysia	1	2	1
Colombia	2	1	4
Peru	3	4	6
Costa Rica	4	5	3
Mexico	5	3	12
Turkey	6	7	5
Argentina	7	8	7
India	8	17	23
Thailand	9	14	9
Dominican Rep.	10	13	17
Ecuador	11	9	10
Mauritius	12	10	11
Brazil	13	6	2
Morocco	14	12	8
Pakistan	15	18	21

The Alliance for Affordable Internet (A4AI) reported that the policies of an active Malaysian government and a transparent regulator resulted in Malaysia being placed **1st out of 61** countries. This ranking took into account government policies that supported the expansion of public access, digital infrastructure and the adoption of smartphones.



Thank you



Suruhanjaya Komunikasi dan Multimedia Malaysia | Malaysian Communications and Multimedia Commission
MCMC Tower 1, Jalan Impact, Cyber 6, 63000 Cyberjaya, Selangor MALAYSIA
T: + 60 3 86 88 80 00 | F: + 60 3 86 88 10 02 | E: acc@mcmc.gov.my | W: www.mcmc.gov.my



Suruhanjaya Komunikasi
Dan Multimedia Malaysia



SKMM_MCMC



SKMM_MCMC



MCMCTV

