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## 2019 AT A GLANCE



### Broadband

**131.7 %**

Broadband penetration rate per 100 inhabitants

**43.4 million**

Total broadband subscriptions

**2.9 million**

Total fixed broadband subscriptions

**40.4 million**

Total mobile broadband subscriptions



### Fixed Telephones

**6.5 million**

Total fixed telephone subscriptions

**19.7 %**

Fixed telephone penetration rate per 100 inhabitants



### Mobile Cellular

**135.4 %**

Mobile cellular penetration rate per 100 inhabitants

**44.6 million**

Total mobile cellular subscriptions

**13.3 million**

Postpaid subscriptions

**31.3 million**

Prepaid subscriptions



### Pay TV

**7.1 million**

Total pay TV subscriptions

**86.4 %**

Pay TV penetration rate per 100 households

## DIGITAL SIGNATURE: NUMBER OF CERTIFICATES ISSUED BY TYPES

Year	Quarter	Individual ('000)	Domestic Holder		Foreign Holder	Total ('000)
			Organisation		Organisation	
			Corporate ('000)	Government ('000)	Government & Corporate ('000)	
2018	4	30.7	381.7	11,954.9	1.1	12,368.4
2019	1	34.4	403.1	12,393.0	1.1	12,831.7
	2	37.2	420.7	13,108.8	1.1	13,567.9
	3	40.0	438.5	13,249.3	1.2	13,729.0
	4	43.4	456.7	13,310.1	1.2	13,811.3

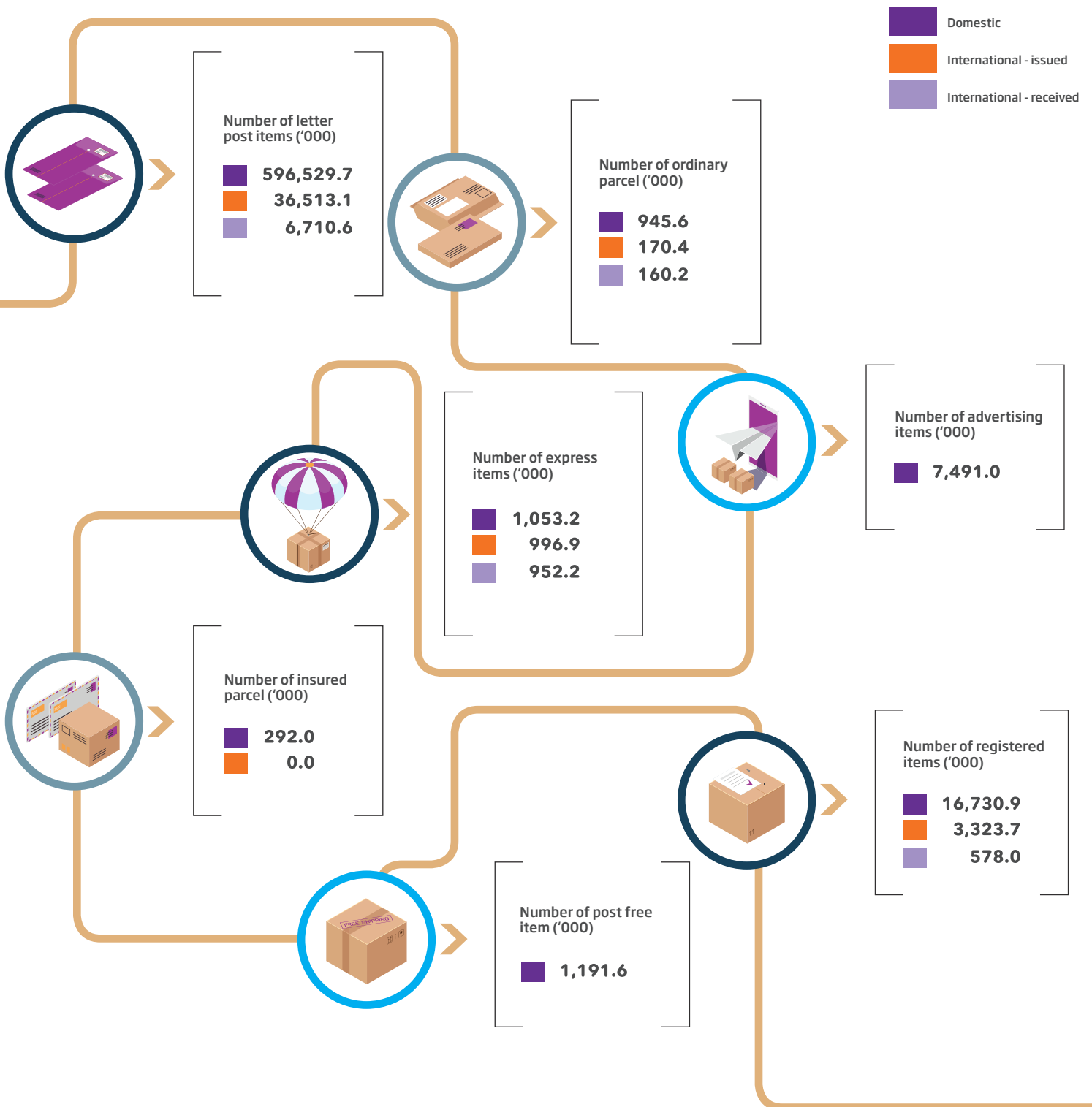
## PERCENTAGE OF HOUSEHOLD TELEVISION ACCESS BY STATE

States	2018 (%)	2019 (%)
Johor	99.2	98.7
Kedah	99.1	98.3
Kelantan	98.7	95.7
Melaka	99.2	97.8
Negeri Sembilan	98.8	98.7
Pahang	97.5	97.8
Perak	98.8	96.7
Perlis	99.7	96.9
Penang	99.1	97.0
Sabah	96.5	95.2
Sarawak	97.2	95.3
Selangor	98.9	98.5
Terengganu	99.6	98.9
F.T. of Kuala Lumpur	99.4	99.6
F.T. of Labuan	98.7	97.9
F.T. of Putrajaya	98.8	98.7
<b>Malaysia</b>	<b>98.6</b>	<b>97.6</b>

### Source:

ICT Usage and Access by Individuals and Households Survey Report 2019, DOSM

## POSTAL SERVICE: POSTAL TRAFFIC ITEM 2019



## COURIER SERVICE: COURIER TRAFFIC 2019

Parcel ('000)

114,998.7  
8,099.6

Document ('000)

90,824.0  
2,162.9

Others ('000)

23,718.7  
725.9



Domestic



International

Year	Document ('000)		Parcel ('000)		Others ('000)	
	Domestic	International	Domestic	International	Domestic	International
<b>Note</b>	<b>a</b>					
2016	47,197.8	2,592.1	23,660.9	4,149.6	34,638.8	448.1
2017	52,763.4	2,611.6	35,230.2	4,915.9	22,119.2	303.3
2018	86,775.3	2,651.7	79,251.1	11,127.2	31,018.4	476.8
2019	90,824.3	2,162.9	114,998.7	8,099.6	23,718.7	725.9

### Note:

a. Includes non-priority mail, walk-in courier, prepaid and post express

# VISION

Establishing a communications and multimedia industry that is competitive, efficient and increasingly self-regulating, generating growth to meet the economic and social needs of Malaysia.

# MISSION

## WE ARE COMMITTED TO:

1

Promoting access to communications and multimedia services

2

Ensuring consumers enjoy choice and a satisfactory level of services at affordable prices

3

Providing transparent regulatory processes to facilitate fair competition and efficiency in the industry

4

Ensuring best use of spectrum and number resources

5

Consulting regularly with consumers and service providers and facilitating industry collaboration





# MINISTER'S FOREWORD





## Assalamualaikum warahmatullahi wabarakatuh and Salam Sejahtera

**I am thankful for the publication of MCMC Annual Report 2019 and would like to congratulate the Malaysian Communications and Multimedia Commission's (MCMC) workforce for it. It is through these pages that we reflect on the successes we have achieved throughout 2019 whilst bolstering our preparation to better encounter the challenges of 2020.**

An array of notable changes had taken place in 2019. Amongst the most historic was the process of shutting down the analogue television broadcast which kick-started in Langkawi on 21 July 2019 and was concluded on 31 October 2019 in Sabah and Sarawak. It was a momentous occasion for the nation as it marked the beginning of a new era in digital broadcasting, known as myFreeview, wherein it offers more television and radio channels, aside from presenting high clarity in digital quality.

Meanwhile, in the telecommunications sector, we continued our endeavour in providing the best infrastructure service for the people with the implementation of the National Fibreisation and Connectivity Plan (NFCCP) as well as pioneering the use of 5G technology through 5G Demonstration Projects (5GDP) in several states. It is envisaged that with quality coverage and exposure to the latest innovations, Malaysians would be more inclined to embrace the global digital era which shall have prominent impact on our economic and social well-being.

The welfare and interest of the consumers are not overlooked either. Other than establishing with implementing various regulations to protect consumers, the Ministry of Communications and Multimedia Malaysia (KKMM), alongside with MCMC and other agencies are also vigorously conducting awareness campaigns in the hopes that consumers would be wise in benefiting network facilities and not to be deceived by cyber criminals. Enforcement actions are quick to follow should there be any elements or conducts which violate the law and morality.

The Ministry and MCMC are highly committed to ensure Malaysians will enjoy the best service and capitalise on the facilities to create success and progress.

Thank you.

**YB DATO' SAIFUDDIN ABDULLAH**

Malaysian Communications and Multimedia Minister

# CHAIRMAN'S MESSAGE

**Bismillahirrahmanirrahim.**

**Assalamualaikum warahmatullahi wabarakatuh and Salam Sejahtera.**

**Alhamdulillah, all praises belong to Allah S.W.T, for it is with His consent I am able to put forward all the achievements, progress and initiatives that are being helmed and explored by the Malaysian Communications and Multimedia Commission (MCMC) in shaping the nation's digital landscape throughout 2019.**

Although the economic environment was eclipsed by challenges, MCMC has kept striving forth and worked progressively in devising policies, approaches and measures for it to remain relevant and competitive in spurring the telecommunications, multimedia, broadcasting, digital certification, postal and courier services industries, as well as online activities which fall under its regulatory purview.

Bridging the digital divide and enhancing the nation's broadband speed are the major issues for MCMC. I am truly grateful for the report published by the World Bank on 30 June 2019 entitled "Re-energising The Public Service" which acknowledged MCMC's efforts in achieving these objectives.

Several significant and strategic decisions were made in 2019, covering a range of issues, namely the launch of the National Fiberisation and Connectivity Plan (NFCP), the 5G Malaysia Showcase, the implementation of 5G Demonstration Projects (5GDP), the start of a comprehensive study on the National Digital Identity (NDID) framework and the switchover to digital TV broadcast.



The shutdown of the analogue TV and the transition to a new era of digital broadcasting had been planned and executed with sheer precision. The historical moment took place on 31 October 2019 as Malaysia made a complete switch to digital TV transmission.

Another substantial step towards a digital world that awaits fellow Malaysians will be the introduction of the NDID. It shall offer a whole new experience that spells greater security and efficiency in conducting multiple transactions via the digital platform. The NDID study has since begun and it is expected to be completed by the end of August, 2020.

The commitment which MCMC upholds to perpetually be at the forefront of technological advancement is critical in propelling the digital economy and in riding the waves stirred by Industrial Revolution 4.0. Therefore, MCMC, under the auspices of the Ministry of Communications and Multimedia Malaysia (KKMM) and other related stakeholders, continue to join forces in executing a plethora of strategic initiatives so as to ensure both the people and the nation are able to compete in the international arena.

In conclusion, I would like to humbly thank all parties for all the assistance and cooperation extended throughout the year. My sincere appreciation also goes out to the entire MCMC workforce for having delivered excellence and commitment in fulfilling their obligations to the people and the nation. It is hoped that the coming year will fuel us with more innovative and creative vibes which shall accelerate efforts in providing the best service.

**DR. FADHLULLAH SUHAIMI  
ABDUL MALEK**

Chairman, Malaysian Communications and  
Multimedia Commission



## MEMBERS OF THE COMMISSION



From left:

- 01** YBRS. MR. CHEW LIONG KIM
- 02** YBRS. PROF DR. THAREK ABD RAHMAN
- 03** YBHG. DATUK SERI TAJUDDIN ATAN
- 04** YBHG. DATO' SURIANI DATO' AHMAD



05

**YBRS. DR. FADHLULLAH SUHAIMI  
ABDUL MALEK**

06

**YBHG. DATUK ZAINAL ABIDIN  
ABU HASSAN**

07

**YBHG. TAN SRI DATUK  
DR. ABDUL SAMAD HAJI ALIAS**

08

**YBRS. DR. ZAIDI RAZAK**





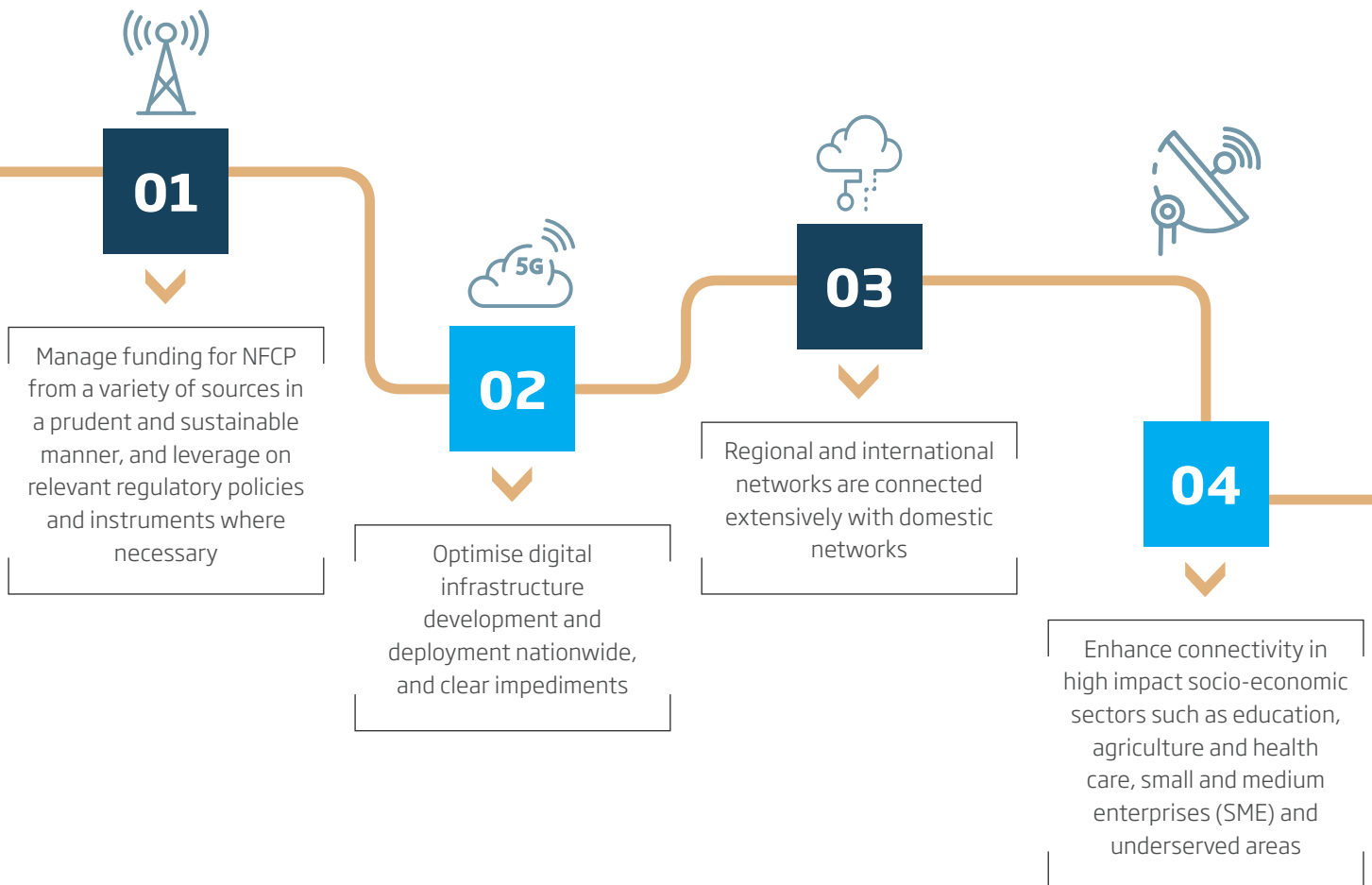
MCMC stays up to date with the latest developments taking shape in the Fourth Industrial Revolution or IR 4.0 ecosystem as it forms the basis in building a robust digital economy for the country. It is for that reason 2019 saw MCMC placing its emphasis on essential initiatives, among which were the launch of the National Fibreisation and Connectivity Plan (NFCP), the 5G Malaysia Showcase and the 5G Demonstration Projects.

# RY P M M E N T

# NATIONAL FIBERISATION AND CONNECTIVITY PLAN (NFCP)

The National Fiberisation and Connectivity Plan (NFCP) is a plan that aims to put in place robust, pervasive, high quality and affordable digital connectivity for the well-being of the people and progress of the country.

The NFCP strategies are intended to:



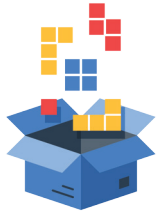
## NATIONAL FIBERISATION AND CONNECTIVITY PLAN (NFCP)

### ESTIMATED COST OF NFCP

MCMC had estimated RM21.6 billion was needed to establish the digital infrastructure related to the implementation of NFCP which commenced from 2019 until 2023. In this matter, the NFCP infrastructure projects were proceeded by means of co-investment between MCMC and licensees registered under the Communications and Multimedia Act 1998 (CMA 1998), and it was conducted in the following manner:

- a) An estimated cost of about RM10 billion to RM11 billion was proposed to be allocated from the Universal Service Provision Fund (USP Fund), pursuant to the Communications and Multimedia Regulations (Universal Service Provision) 2002 and regulated by MCMC. Funding using the USP Fund is directed towards providing coverage and upgrading service in underserved areas, or non-commercially viable areas; and
- b) For commercially viable areas, licensees under the CMA 1998 shall partake in commercial deployment, which translates into a direct investment on their part.

During the tabling of Budget 2020 on 11 October 2019, the Government had announced its intention of upgrading internet connectivity in remote areas, particularly in Sabah and Sarawak in an effort to ensure that no one is marginalised and excluded from the country's digital agenda. MCMC was asked to allocate RM250 million for the provision of broadband access using satellite technology. Apart from that, the Government will also allot RM210 million to expedite the establishment of digital infrastructure in public buildings, especially in schools and high-impact areas.



## NATIONAL FIBERISATION AND CONNECTIVITY PLAN (NFCP)

### The NFCP Objectives and Initiatives

The seven (7) objectives that had been set for the NFCP are as follows:



## NATIONAL FIBERISATION AND CONNECTIVITY PLAN (NFCP)

The implementation of NFCP encompasses both policy and infrastructure initiatives. Among the policy initiatives is the promotion of healthy competition in broadband services which will boost investments in the communications and multimedia industry. Moreover, the policy also serves to facilitate the implementation of NFCP at the state level, optimisation of spectrum utilisation, setting up test beds for new technologies i.e. 5G, sharing of digital infrastructure, as well as accelerating commercial and innovative infrastructure development in targeted areas.

As for infrastructure initiatives, projects that have been mapped out include increasing the number of communications towers and transmitters, in addition to upgrading existing infrastructure, enhancing submarine cable network and utilising satellite technology.



### Implementation of NFCP Projects through Collaboration with the Ministry and Other Agencies

Under the Industry4WRD initiative, the Ministry of International Trade and Industry (MITI), Ministry of Communications and Multimedia Malaysia (KKMM), Malaysian Investment Development Authority (MIDA) and MCMC have formed a cooperation to upgrade digital infrastructure with a speed of up to 1Gbps in 37 selected industrial areas nationwide. On 17 December 2019, a tender advertisement with regards to the project implementation was issued by MIDA and a briefing session for the said tender was conducted on 23 December 2019 by MIDA and MCMC.

Henceforth, MCMC, along with KKMM had organised a *Bengkel Pemantapan Pembangunan Infrastruktur Digital Negara* on 8 and 9 May 2019 to identify issues and effective measures in addressing existing challenges in the hopes of fast-tracking digital infrastructure development at the state level. The workshop was attended by 112 representatives from the ministry as well as federal and state level agencies, i.e. the Ministry of Housing and Local Government (KPKT), Federal Department of Town and Country Planning (PLANMalaysia), Department of Survey and Mapping Malaysia (JUPEM), Malaysian Highway Authority (LLM), Public Works Department (JKR), Land and Mines Office (PTG), as well as the State Secretary Offices.

Among the outcomes of the workshop include proposing solutions by MCMC on issues hindering the digital infrastructure deployment at the state level during the Chief Ministers' Meeting on 2 July 2019. The meeting took note of the presentation and the proposed solutions.

## NATIONAL FIBERISATION AND CONNECTIVITY PLAN (NFCP)

### Challenges and Endeavours in the Development of Digital Infrastructure

In addition to the *Bengkel Pemantapan Pembangunan Infrastruktur Digital Negara* held on 8 and 9 May 2019, a series of roadshows was also carried out by MCMC from May until August 2019 with all Chief Ministers and Federal Territory Ministers to establish a solid support from the states and therefore guaranteeing a more effective and efficacious operationalisation of NFCP. The outcome of these discussions was marked by an assortment of joint actions to effectively push forward the NFCP.

The full endorsement and commitment by state governments and federal territories towards NFCP were also echoed by the respective Chief Ministers and Federal Territory Ministers following an official statement delivered by each state and federal territory in conjunction with the NFCP launch by YAB Deputy Minister on 19 September 2019.



### NFCP PILOT PROJECT IN JASIN, MELAKA

In an effort to identify the field issues on NFCP implementation, a pilot project led by Tenaga Nasional Berhad (TNB) was carried out in Jasin, Melaka and launched by then KKMM Minister Gobind Singh Deo on 8 January 2019. The pilot project was undertaken by TNB's subsidiary, Allo Technology Sdn Bhd (formerly known as Setia Haruman Technology Sdn Bhd), which is a licensee under the CMA 1998.

The pilot project was completed ahead of schedule as a result of the backing and brilliant synergy between MCMC, TNB, Pos Malaysia, *Jawatankuasa Infrastruktur Telekomunikasi Negeri*, Melaka State Government, Jasin

Municipal Council and all the relevant government agencies in Melaka. This was the upshot of a remarkable teamwork from all parties for it had successfully reduced the construction application and permit approval period to just two (2) weeks.

This pilot project also demonstrated that the open access concept for service providers present more options which bode well for consumers. The utilisation of TNB's existing infrastructure also contributed to the shortening of the permit application period and thus, reducing the construction cost as well as traffic congestion for the

public. Such savings are foreseen to stimulate healthy competition among service providers and gain the support of the local community as it serves the interest of the people through a repertoire of subscription offers, along with quality and affordable broadband coverage.

This pilot project had provided the advantage of a high-speed broadband to 1,100 households, covering places such as the Jasin police quarters, Felda Tun Ghafar Kemendor, Taman Merbau Perdana and Taman Maju. Even the Jasin Post Office consistently recorded a broadband speed of almost 1Gbps.

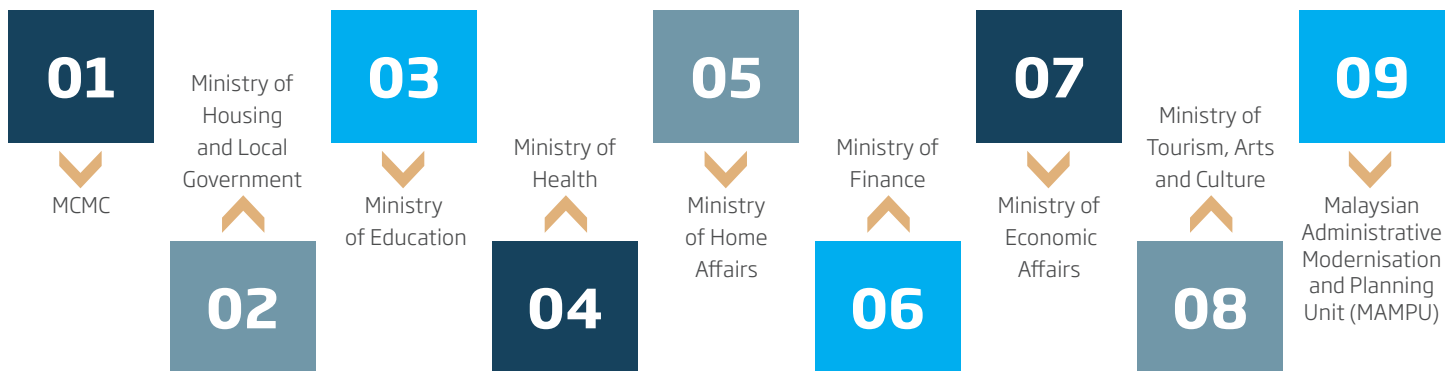


## NATIONAL FIBERISATION AND CONNECTIVITY PLAN (NFCP)

### Approval for the Implementation of NFCP and the Formation of a Special NFCP Task Force

On 31 July 2019, the Cabinet had approved the proposed NFCP implementation headed by KKMM and MCMC besides consenting to the formation of a Special NFCP Task Force to coordinate the planning and implementation of fibre optic network in selected institutions, namely schools, hospitals, libraries, police stations and post offices, throughout Malaysia by the year 2022.

The Special NFCP Task Force was officially formed on 20 September 2019 and chaired by the KKMM Secretary General. Meanwhile, members of the task force consist of the following ministries and agencies:



### NFCP Official Launch

NFCP was officially launched on 19 September 2019 at the Putrajaya International Convention Centre and was officiated by the Deputy Prime Minister of Malaysia. In expressing support towards the realisation of NFCP, more than 1,000 invited guests thronged the event which comprised of representatives from federal and state ministries and agencies, industry players, private firms, financial analysts, as well as public and private universities. The event provided a more detailed overview of the journey, targets and deployment of NFCP. Besides the YAB Deputy Prime Minister, other honorary guests who were in attendance at NFCP's official launch included the Malaysian Communications and Multimedia Minister, Transport Minister, Kelantan Deputy Chief Minister, and Secretary General of the Malaysian Communications and Multimedia Ministry.

The industry players also strongly support NFCP; as articulated by several Chief Executive Officers of prominent fixed and mobile broadband services; Celcom, Digi, Maxis, Time, TM, U Mobile and YTL, during the event.



## NATIONAL FIBERISATION AND CONNECTIVITY PLAN (NFPCP)

### Improvement Process at the Planning Permission Stage for the Provision of Digital Infrastructure Facilities

As one of the External Technical Agency in the Local Authorities (LAs) One Stop Centre (OSC) Committee, MCMC, on 25 July 2019, had tabled a Standard Operating Procedure (SOP) which includes information on the procedures, checklist and the essentials in providing digital infrastructure to a few professional bodies, inter alia, the Board of Architects, Engineers, Town Planners and other technical agencies in order to streamline the implementation of OSC 3.0 Plus system.

The OSC 3.0 Plus was developed by the Ministry of Housing and Local Government wherein it is adopted by LAs nationwide in matters relating to processing development applications, evaluations, and thereon, in issuing permission for development plan. Such SOP is crucial in ascertaining basic digital infrastructure facilities are taken into consideration for each new development at the processing stage for Planning Permission.



### Sharing Digital Infrastructure

In an effort to encourage the sharing and coordination of infrastructure at the industry level, the NFPCP Protem Committee was set up in October 2019. The members of this committee include Chief Executive Officers of prominent fixed and mobile broadband services. The committee is mandated with the task to coordinate the construction of digital infrastructure, in addition to devising infrastructure sharing initiatives to enable more broadband coverage, and hence, reducing costs. Such initiative is also pertinent in paving the way for a successful 5G deployment in the coming years.





## NATIONAL FIBERISATION AND CONNECTIVITY PLAN (NFCP)

### Digital Infrastructure Development

As of the 4th quarter of 2019, a total of 2,769,358 ports were available for high speed broadband service of up to 100Mbps to users in State capitals, major cities and high-impact economic areas nationwide through the High Speed Broadband (HSBB) project.

Under the Suburban Broadband (SUBB) initiative, a public-private partnership (PPP) was formed between the Government and Telekom Malaysia Berhad (TM) and as many as 293,356 ports were completed through financing from the Government and TM. On the whole, after taking into account the contribution from Universal Service Provision Fund (USP Fund), the execution of the SUBB project had managed to provide 489,004 ports. This initiative, which started in 2015, was meant to widen the coverage of fixed broadband with speed of up to 20 Mbps in the suburban areas nationwide.

Aside from initiatives under the USP programme, efforts were also undertaken commercially towards improving mobile broadband quality and widening its coverage through network enhancement operations by service providers. In 2019, a total of 2,129 communications structures and transmitters were erected by service providers in order to commercially offer cellular and mobile broadband services throughout the country.



## 5G PLANNING AND DEMONSTRATION PROJECTS



In October 2018, the Malaysian Communications and Multimedia Minister had announced that the 5G Test Bed initiative will be carried out in Putrajaya and Cyberjaya over a period spanning from November 2018 until 31 October 2019. In tandem with the announcement, MCMC proceeded with the first 5G Test Bed Call for Collaboration (5GTBCFC) in November 2018 for the purpose of seeking insight into 5G, whilst showcasing its technical capabilities and technological performance.

Predicated on the positive response and support towards 5GTBCFC, MCMC continued to pursue related initiatives with a zealous commitment by weaving the threads of cooperation with stakeholders in its effort to introduce 5G in Malaysia.

## 5G PLANNING AND DEMONSTRATION PROJECTS

### The Launch of the 5G Malaysia Showcase

In its initial pursuance of creating awareness on 5G, probing on the elements and use cases across various verticals, MCMC had organised the 5G Malaysia Showcase from 18 until 21 April 2019 which was officiated by the YAB Prime Minister, Tun Dr. Mahathir Mohamad at the Perbadanan Putrajaya Complex.

The 5G Malaysia Showcase succeeded in bringing forth eight (8) verticals of enormous potential to be developed with the 5G technology, and it constituted agriculture, digital healthcare, education, entertainment/media, manufacturing and processing, public safety, smart city and smart transportation.

Among the real life applications that were exhibited involved remote healthcare consultation and diagnosis, immersive education, real-time e-Sports with 4K multi-screen, holoportation, autonomous vehicles, drone for various digital

mapping and monitoring, robots, smart manufacturing, precision farming, virtual reality classroom and smart campus using Internet of Things (IoT).

Approximately 10,000 visitors from all ages made their way to the four-day exhibition to witness and experience for themselves the multifaceted 5G technology that was on display. A total of 27 use cases were developed by 11 exhibitors comprising of strategic partners in the telecommunications and multimedia industry, government agencies and institutions of higher learning, i.e. Celcom Axiata Berhad, Digi Telecommunications Sdn Bhd, Ericsson Malaysia Sdn Bhd, Huawei Technologies (M) Sdn Bhd, Malaysian Automotive, Robotics and IoT Institute (MARii), Maxis Broadband Sdn Bhd, Nokia (M) Sdn Bhd, Telekom Malaysia Berhad, U Mobile Sdn Bhd, University of Technology Malaysia (UTM) and ZTE (Malaysia) Corporation Sdn Bhd.



The 5G Malaysia Launch and Showcase, 18-21 April 2019, Perbadanan Putrajaya Complex

## 5G PLANNING AND DEMONSTRATION PROJECTS

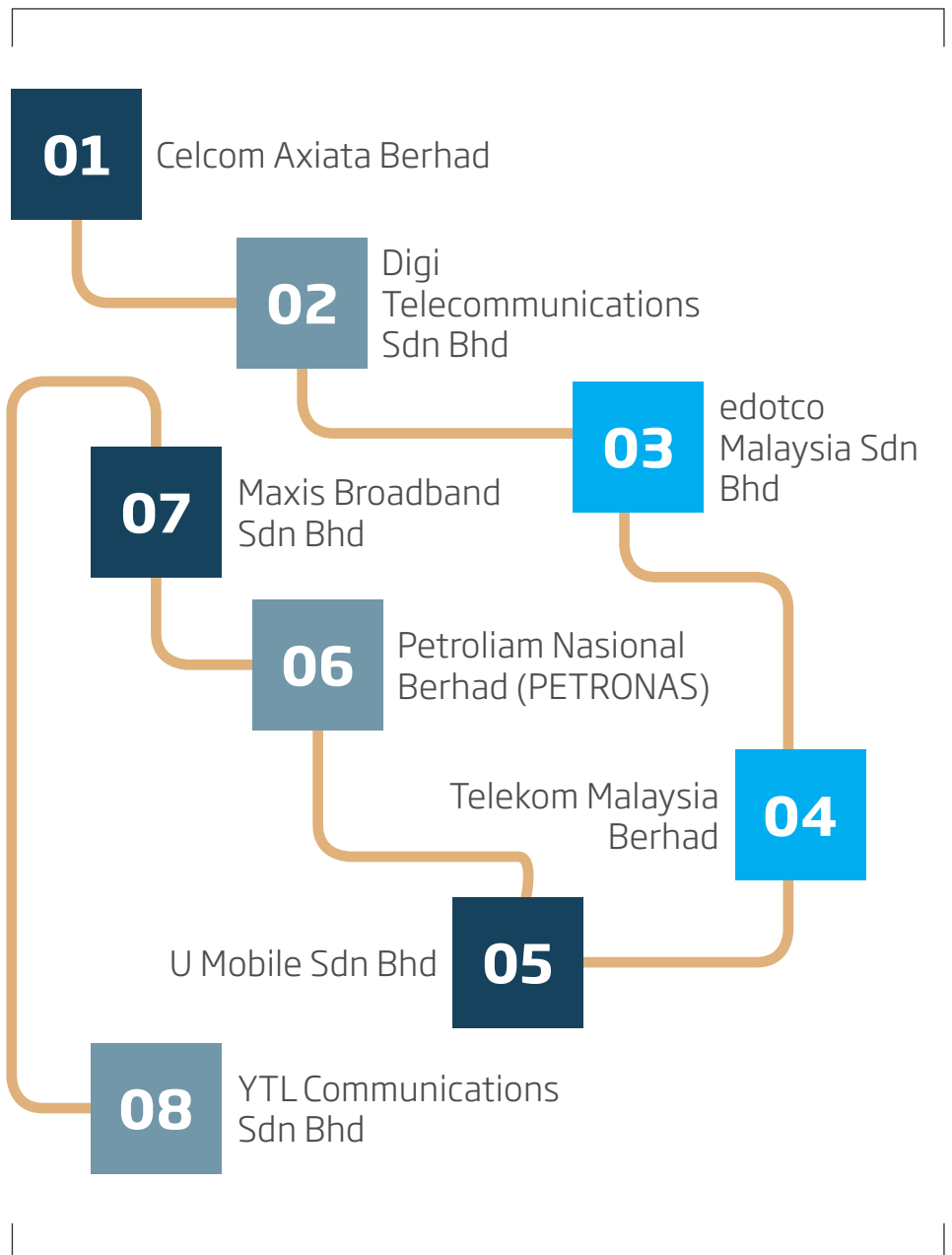
### 5G Malaysia Demonstration Project

The successful Launch and Showcase Events had driven MCMC into a proactive pursuit of fostering and stimulating further advancement in the 5G ecosystem by introducing the 5G Malaysia Demonstration Projects or better known as 5GDP. Stemming from the theme “Progressing Humanity”, the project seeks to facilitate, create and nurture the development of use cases that show prospects in a live but controlled environment and from a broader perspective, to augment the 5G ecosystem in Malaysia within the identified sectors of the industry.

At the outset, MCMC undertook countless engagement activities with all industry strategic partners and various ministries to identify promising use cases that could be developed through the 5GDP.

Thereafter, a total of 28 use cases were identified and presented to industry strategic partners at the *Bengkel Pemantapan Rangka Kerja 5G Bersama Kementerian Dan Pihak Berkepentingan* organised by the National 5G Task Force on 27 June 2019.

Subsequently, MCMC announced a Call for Collaboration (CFC) on 28 June 2019, inviting the members of the industry to participate in the 5G Malaysia Demonstration Projects. A total of 11 proposals were received and evaluated, wherein eight (8) were approved to participate in the 5GDP. The proposals were submitted by companies listed below:



### 5G PLANNING AND DEMONSTRATION PROJECTS

The 5G Malaysia Demonstration Projects which commenced in October 2019 was undertaken for a duration of six (6) months in six (6) states, i.e. Federal Territory of Kuala Lumpur, Kedah, Penang, Perak, Selangor and Terengganu. It featured 72 use cases at 56 5G sites comprising nine (9) verticals, specifically, agriculture, digital healthcare, education, entertainment/media, manufacturing and processing, oil and gas, smart city, smart transportation and tourism.

Solid teamwork and support from industry players were very encouraging as it translated into an investment worth RM143 million in executing the project. This endeavour was expected to generate a positive impact in ameliorating the quality of life, aside from contributing to the nation's socio-economic growth.



A summary of activities at the 5G Malaysia Demonstration Project

# SPECTRUM MANAGEMENT

Spectrum is a national asset managed by MCMC in accordance with the Communications and Multimedia Act of 1998 (CMA 1998) and the Communications and Multimedia (Spectrum) Regulations 2000. In general, spectrum management involves the following activities:



Spectrum is a highly valued national asset. The use of spectrum needs to be well-planned, maintained and regulated to ensure it is free from interference and to guarantee the quality of service. Spectrum management also involves harmonisation and coordination with the international parties and the International Telecommunication Union (ITU), including the coordination of satellite and terrestrial systems.

## Allocation of Frequency Bands for the Mobile Broadband Service in Malaysia

Mobile broadband is among the rapidly expanding services in Malaysia with total customer count hitting 43.4 million in 2019. In its crusade to reinforce service quality and remain aligned with the objectives that have been set under the NFCP, MCMC has therefore, in January 2019, appointed an international consultant to perform a study on optimising the use of spectrum for mobile broadband.

Further to this, MCMC proceeded with a Public Inquiry beginning 1 July 2019 until 30 August 2019 regarding the allocation of

frequency bands for mobile broadband services in Malaysia. The Public Inquiry was intended to gather viewpoints from the industry, stakeholders and the people at large concerning the proposal on technical matters and spectrum fees within the 700 MHz, 2300 MHz and 2600 MHz spectrum bands.

The Public Inquiry's final report was issued on 31 December 2019, whereby stating MCMC's stand as expounded below:

- The 700 MHz, 3.5 GHz and 26/28 GHz frequency bands were identified as the pioneer bands for the rollout of 5G in Malaysia.
- The current allocation of the 2300 MHz and 2600 MHz frequency bands will be maintained until December 2021.

## SPECTRUM MANAGEMENT

## Changes in Class Assignment

In 2019, MCMC had made two (2) changes in class assignments, which are as follows:

- February 2019 - addition to the types of class assignment for the satellite broadcasting system receiver direct-to-home (DTH) to complement the areas outside the digital terrestrial TV broadcast; and
- December 2019 - additional frequency band in class assignment (11.70 GHz - 11.95 GHz) for the satellite broadcasting receiver device.

## Study on the Re-Planning of FM Radio Frequency

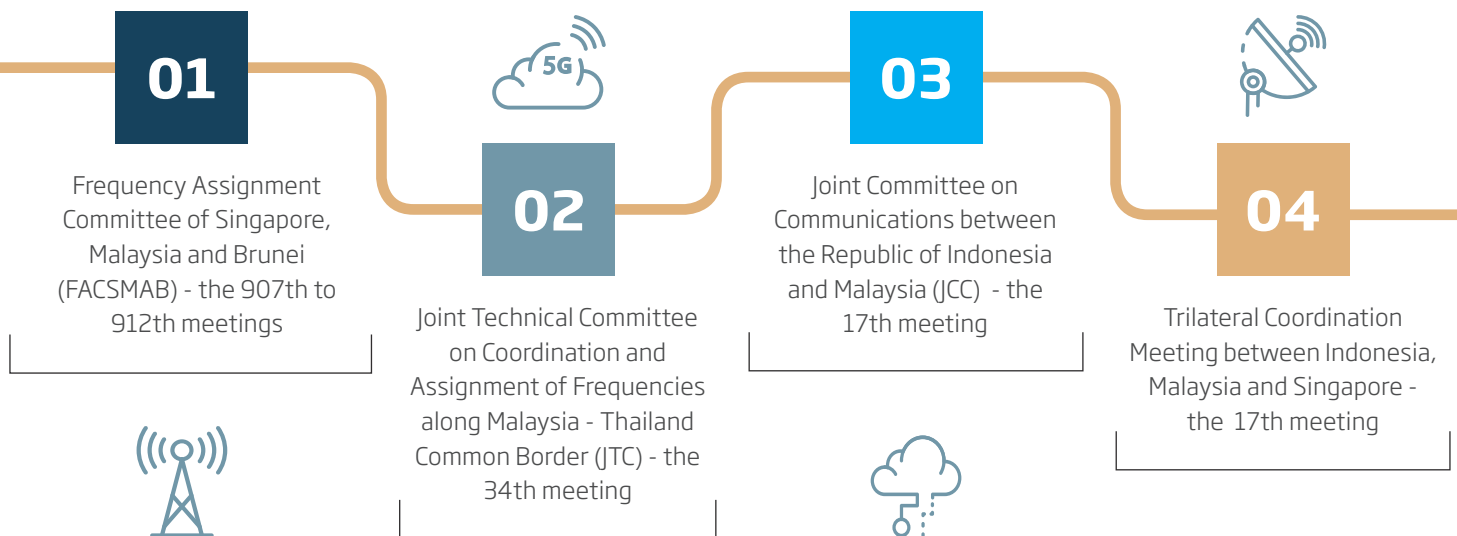
The frequency band utilised by FM radio broadcasting service in Malaysia is within the range of 87.5 MHz to 108.0 MHz. Due to increasing demands in utilising this frequency band, MCMC had embarked on a study for re-planning of frequency band 87.5 MHz to 108.0 MHz for the FM radio broadcasting service. The study was meant to examine current usage and to re-plan the use of FM radio frequency for the entire FM radio broadcasting stations located in Peninsular Malaysia, Sabah and Sarawak.

In relation to this, a Public Notice was issued on 1 July 2019 informing that any new application for apparatus assignment for FM radio frequency will be deferred until the completion of the said study.

## Technical Coordination with Neighbouring Countries

Coordination with neighbouring countries is conducted in accordance with the specifications and guidelines that have been set at the domestic and international levels.

There are four (4) border coordination platforms that are leveraged for meetings between Malaysia and its neighbouring countries. Throughout 2019, a total of nine (9) meetings had taken place:

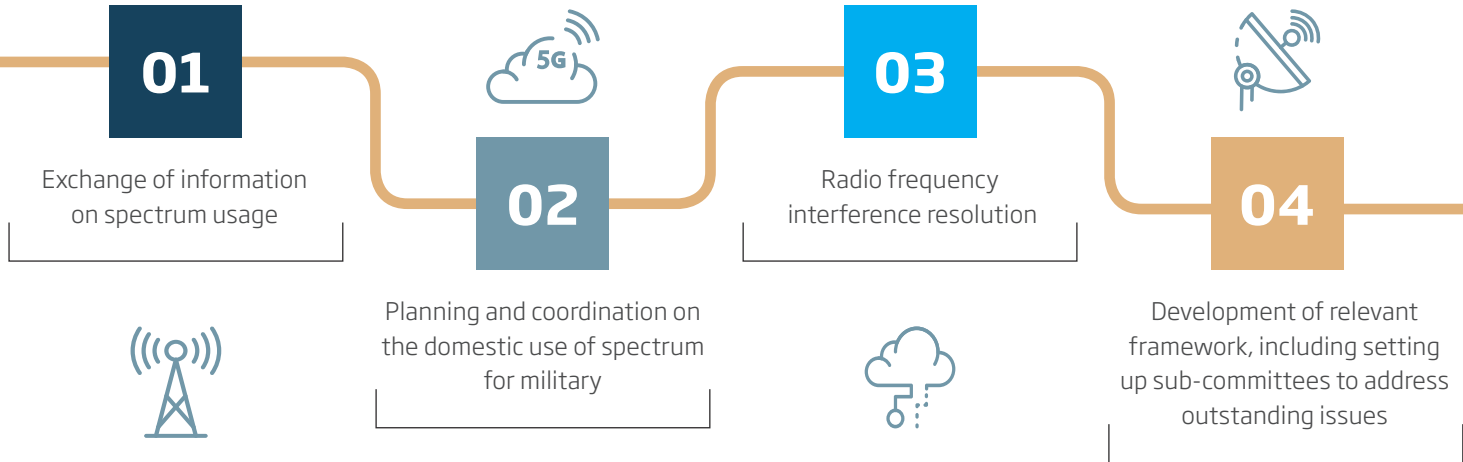


The activities carried out by the border committees include coordination and planning on the use of spectrum, establishment of coordination parameters, registration of frequency usage along common border areas and frequency interference resolution.

## SPECTRUM MANAGEMENT

### Bilateral Coordination at the Domestic Level with Government Agencies

The 15th Coordination Meeting between MCMC and the Malaysian Armed Forces (MAF) was held in September 2019 and among the issues discussed during the meeting were as follows:



### Satellite Network Coordination

Bilateral coordination with the affected administrations is pursued to ensure Malaysian satellite networks can co-exist with other foreign satellite networks without causing interference to one another.

In 2019, three (3) satellite coordination meetings were held between Malaysia-Qatar, Malaysia-Oman and Malaysia-Russia to reach an agreement in coordinating the use of allocated frequency.



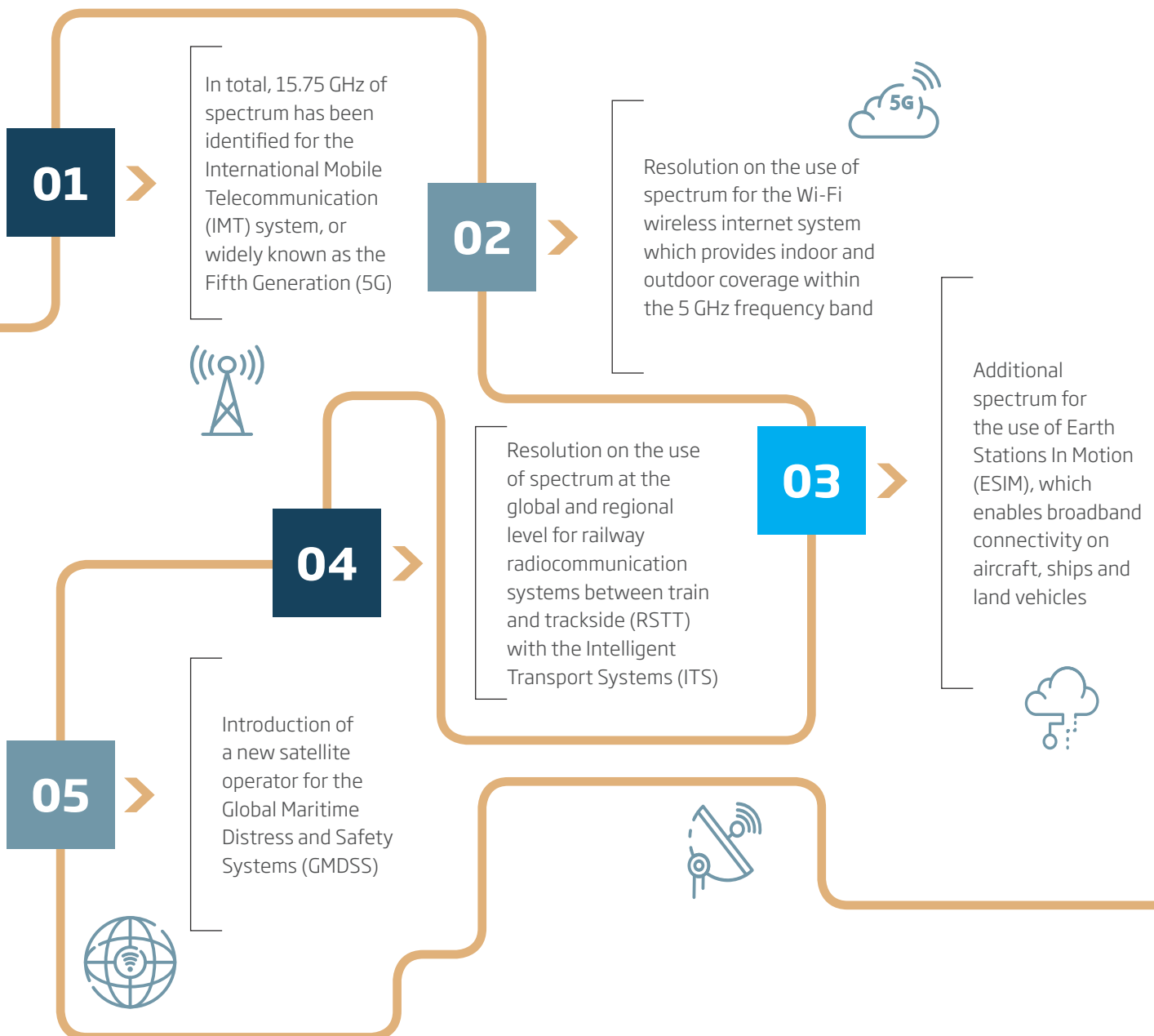


## SPECTRUM MANAGEMENT

## World Radiocommunication Conference 2019 (WRC-19)

The World Radiocommunication Conference (WRC) is one such dedicated platform for administrations to discuss and coordinate the use of radio spectrum in the best possible manner. The WRC-19 was held in Sharm El Sheikh, Egypt beginning 28 October until 22 November 2019 and was attended by 3,420 delegates from 163 countries.

As the WRC-19 came to a close, a number of significant decisions were reached, among others:



## INTERNATIONAL COORDINATION

MCMC plays a pivotal role in advocating Malaysia's communications and multimedia policies and interests on the international level. MCMC's active participation at the international fora, in particular, the Association of Southeast Asian Nations (ASEAN), International Telecommunication Union (ITU), Asia-Pacific Economic Cooperation (APEC), Universal Postal Union (UPU) and other international organisations ensures that the Commission's policies and interests that are relevant to the communications and multimedia sector are safeguarded and advocated to influence regional policy formulation, wherever applicable and possible. In 2019, MCMC had taken part in a total of 95 conferences, meetings and activities, in addition to seven (7) working visits by foreign delegations.

### ➤ IIC REGIONAL REGULATORS' FORUM ASIA 2019, 12 FEBRUARY 2019 AND TELECOMMUNICATIONS AND MEDIA FORUM ASIA 2019, 13-14 FEBRUARY 2019, KUALA LUMPUR

The annual International Institute of Communications (IIC) Regional Regulators' Forum (RRF) Asia 2019 and the Telecommunications Media Forum (TMF) 2019 were convened at the Royale Chulan Hotel, Kuala Lumpur from 12 to 14 February 2019. Both the RRF and TMF offer an avenue for discussion on matters relating to ICT development and regulations within the Asia-Pacific region. These forums welcomed the presence of foreign ICT specialists, including those from the government sector, industry players as well as academicians.

Participants representing various countries in the Asia-Pacific region leveraged on this yearly event through dialogues, and exchanges of perspectives and experiences with the aim to advance the evolving landscape of the ICT sector, and signal the sector's rapid engagements in cross-cutting/horizontal issues as well as digital transformation. On behalf of Malaysia, MCMC hosted and participated as speakers/ panelists in both the RRF and TMF.

### ➤ 5th ASIA PACIFIC SPECTRUM MANAGEMENT CONFERENCE, KUALA LUMPUR, 12-14 MARCH 2019

Co-organized between MCMC, the International Telecommunication Union and Asia-Pacific Telecommunity (APT), the 5th Asia Pacific Spectrum Management Conference took centre stage at the Grand Hyatt, Kuala Lumpur from 12-14 March 2019. Aside from this region, the conference also made its round in the Middle East/North Africa, Africa, Latin America, North America, Europe and Russia.

The 5th Asia Pacific Spectrum Management Conference witnessed the congregation of a host of international spectrum management experts, policy makers, the movers and shakers of the industry, plus delegates from related agencies of the United Nations (UN). Critical issues pertaining to regional spectrum management were widely propounded, through dialogues and exchanges of views and best practices around the issue of spectrum management, in particular the much anticipated outcomes of the ITU World Radiocommunication Conference 2019 pertaining to, among others, the spectrum for the commercialisation of 5G.

### ➤ GSMA MOBILE 360 SERIES: DIGITAL SOCIETIES CONFERENCE, KUALA LUMPUR, 24-16 SEPTEMBER 2019

The GSMA Mobile 360 (M360) Series: Digital Societies Conference made its debut in Kuala Lumpur at the JW Marriot from 24 to 26 September 2019. The event, co-organised by MCMC and the Global System for Mobile Communication (GSMA), was in fact the fifth out of seven (7) series of GSMA's M360 in 2019. Other than Asia-Pacific, the M360 conferences were also held in West Africa/Middle East (Ivory Coast and United Arab Emirates), Africa (Rwanda), Latin America (Mexico), Europe (Netherlands) and Russia.

The M360: Digital Societies gathered an impressive group of experts consisting of governmental bodies, heavyweights in the mobile telecommunications industry, including mobile phone and mobile device manufacturers, software companies, hardware suppliers and internet provider companies, all of whom propagate a wider tech ecosystem. The conference centred its discourse on key issues impacting and challenging the mobile telecommunications industry, especially with the dawn of 5G commercialisation.

## INTERNATIONAL COORDINATION

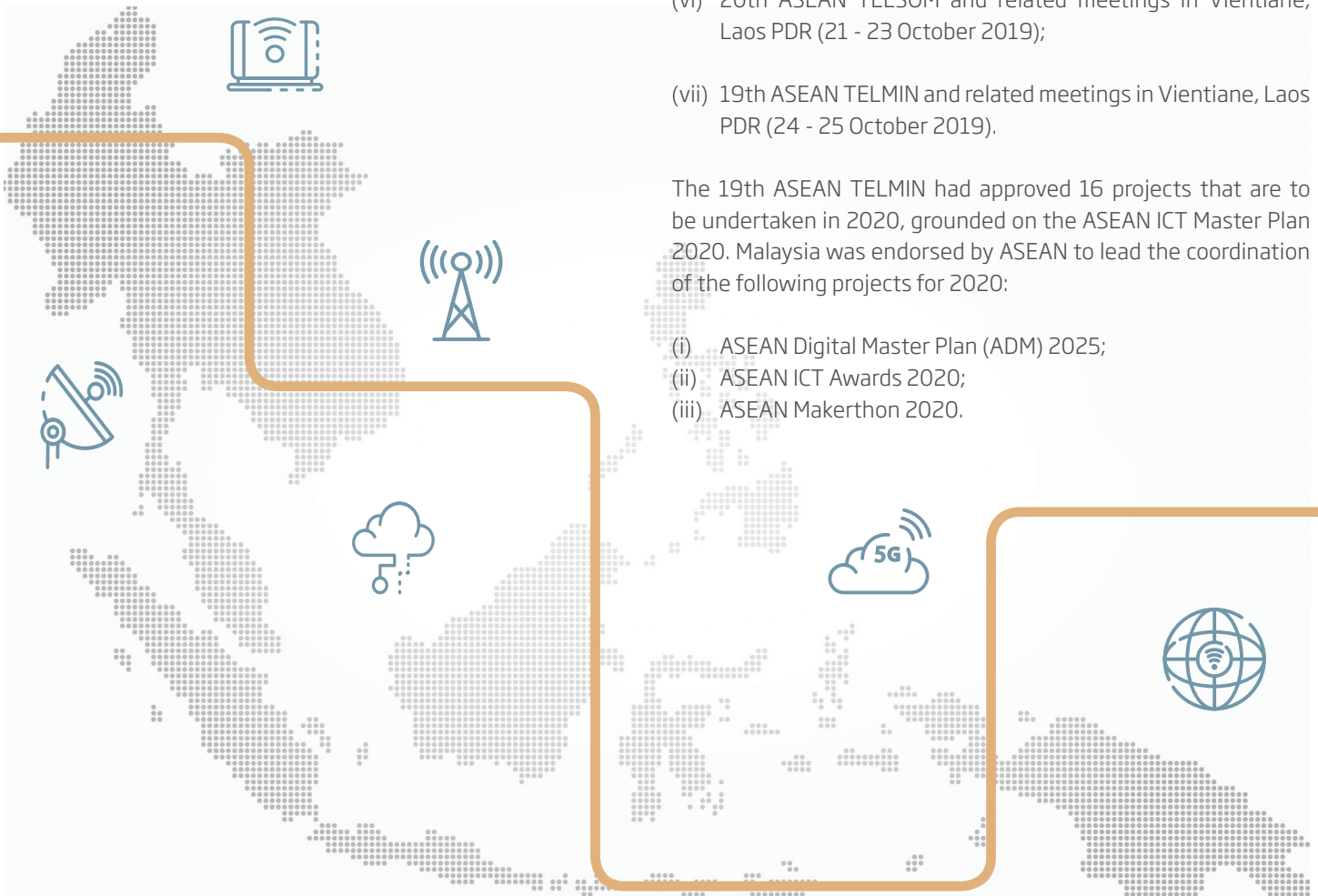
### ASEAN

The ASEAN community encompasses an assortment of sectoral bodies that work in harmony towards regional economic integration. MCMC, alongside KKMM, assumes essential function in the ICT activities helmed by ASEAN as mandated in the following forums:

- (i) ASEAN Telecommunications Regulators Council (ATRC);
  - (ii) ASEAN Digital Senior Officials' Meeting (ADGSOM) (formerly know as ASEAN Telecommunications and IT Senior Officials' Meeting (TELSOM));
  - (iii) ASEAN Digital Ministers' Meetings (ADGMIN) (previously known as ASEAN Telecommunications and IT Ministers Meeting (TELMIN)).
- In 2019, MCMC and KKMM represented Malaysia in the following ASEAN meetings:
- (i) ASEAN Digital Ministers' Retreat in Phuket, Thailand (28 - 29 March 2019);
  - (ii) 1st ASEAN TELSOM-ATRC Leaders' Retreat 2019 in Manila, Philippines (9 - 10 April 2019);
  - (iii) 2019 ASEAN TELSOM-ATRC Joint Working Group in Yangon, Myanmar;
  - (iv) 25th ATRC and related meetings in Bangkok, Thailand (20 - 21 August 2019);
  - (v) 2nd ASEAN TELSOM-ATRC Leaders' Retreat 2019 in Bangkok, Thailand (22 - 23 August 2019);
  - (vi) 20th ASEAN TELSOM and related meetings in Vientiane, Laos PDR (21 - 23 October 2019);
  - (vii) 19th ASEAN TELMIN and related meetings in Vientiane, Laos PDR (24 - 25 October 2019).

The 19th ASEAN TELMIN had approved 16 projects that are to be undertaken in 2020, grounded on the ASEAN ICT Master Plan 2020. Malaysia was endorsed by ASEAN to lead the coordination of the following projects for 2020:

- (i) ASEAN Digital Master Plan (ADM) 2025;
- (ii) ASEAN ICT Awards 2020;
- (iii) ASEAN Makerthon 2020.

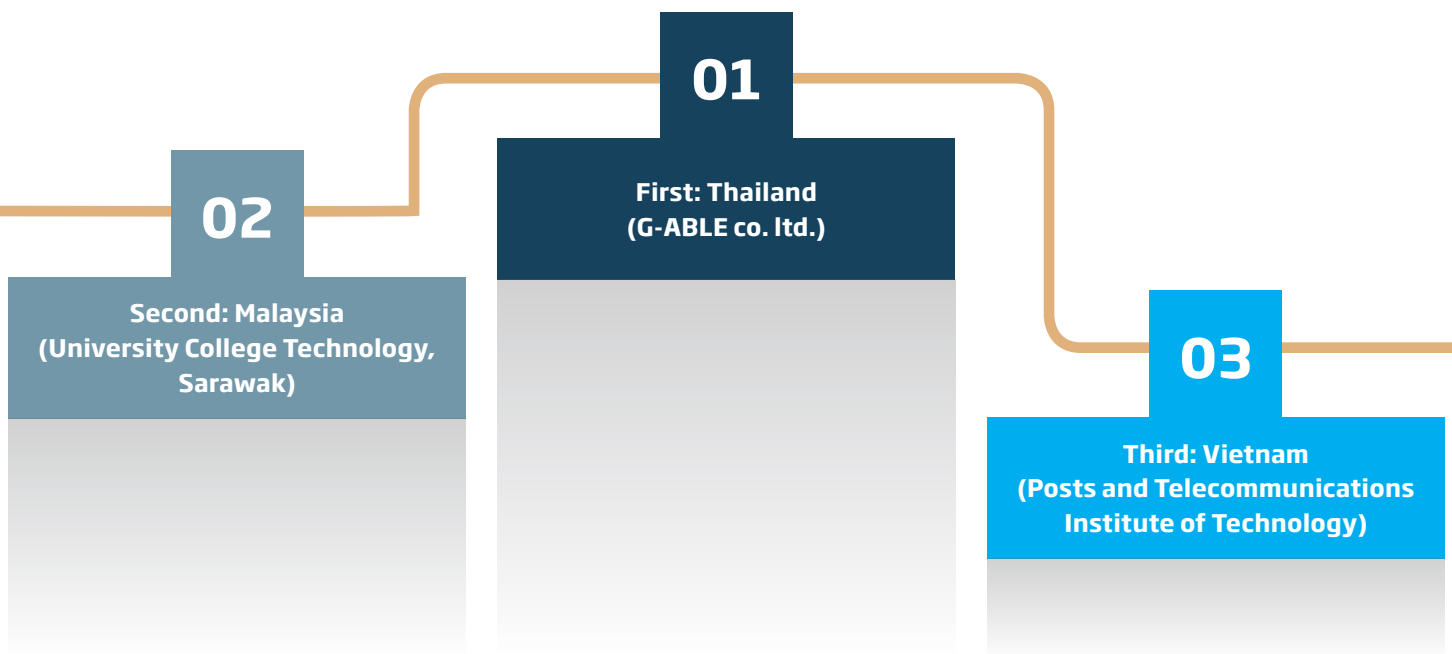


## INTERNATIONAL COORDINATION

### ASEAN Makerthon 2019

Organised by MCMC and KKMM on behalf of Malaysia, this ASEAN ranking competition presented the objective and opportunity for contenders from the region to produce inventions rooted in new technologies, such as 5G and Internet of Things (IoT).

University of Technology, Malaysia (UTM), Kuala Lumpur graciously offered to venue-host the event as it also happens to be the location of the UTM-Ericsson-Celcom Innovation Centre for 5G (IC5G). The ASEAN MAKERTHON 2019 made its mark as the first makerthon to adopt the 5G technology in the competing designs. Winners of the ASEAN Makerthon 2019 are as listed below:



### Universal Postal Union (UPU)

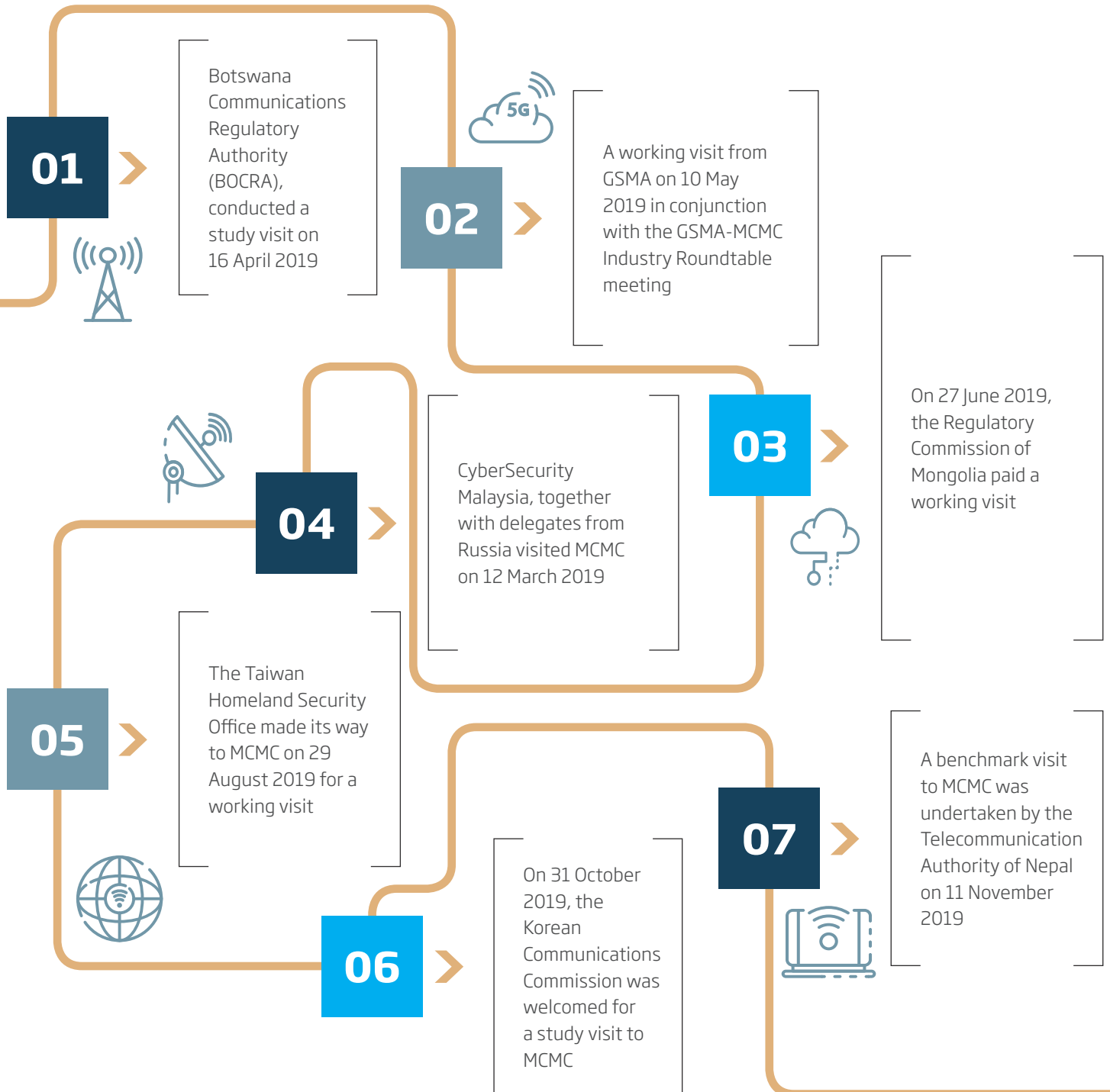
The UPU 3rd Extraordinary Congress was held in Geneva, Switzerland from 23 - 26 September 2019. The Congress continued to discuss matters and issues that were raised during the 2016 UPU Congress in Istanbul, Turkey, as well as at the 2018 2nd Extraordinary UPU Congress in Addis Ababa, Ethiopia. The UPU 3rd Extraordinary Congress convened 144 attendees from member countries whose deliberations focused on the solution to the issue of terminal dues rates for small packages. In reaching an understanding and agreement to resolve the issue, Malaysia, specifically MCMC had contributed views to influence the decision as a member of UPU's Council of Administration (CA) and Chairman of Committee 1 (Financial, Human Resource and Governance) together with Switzerland.

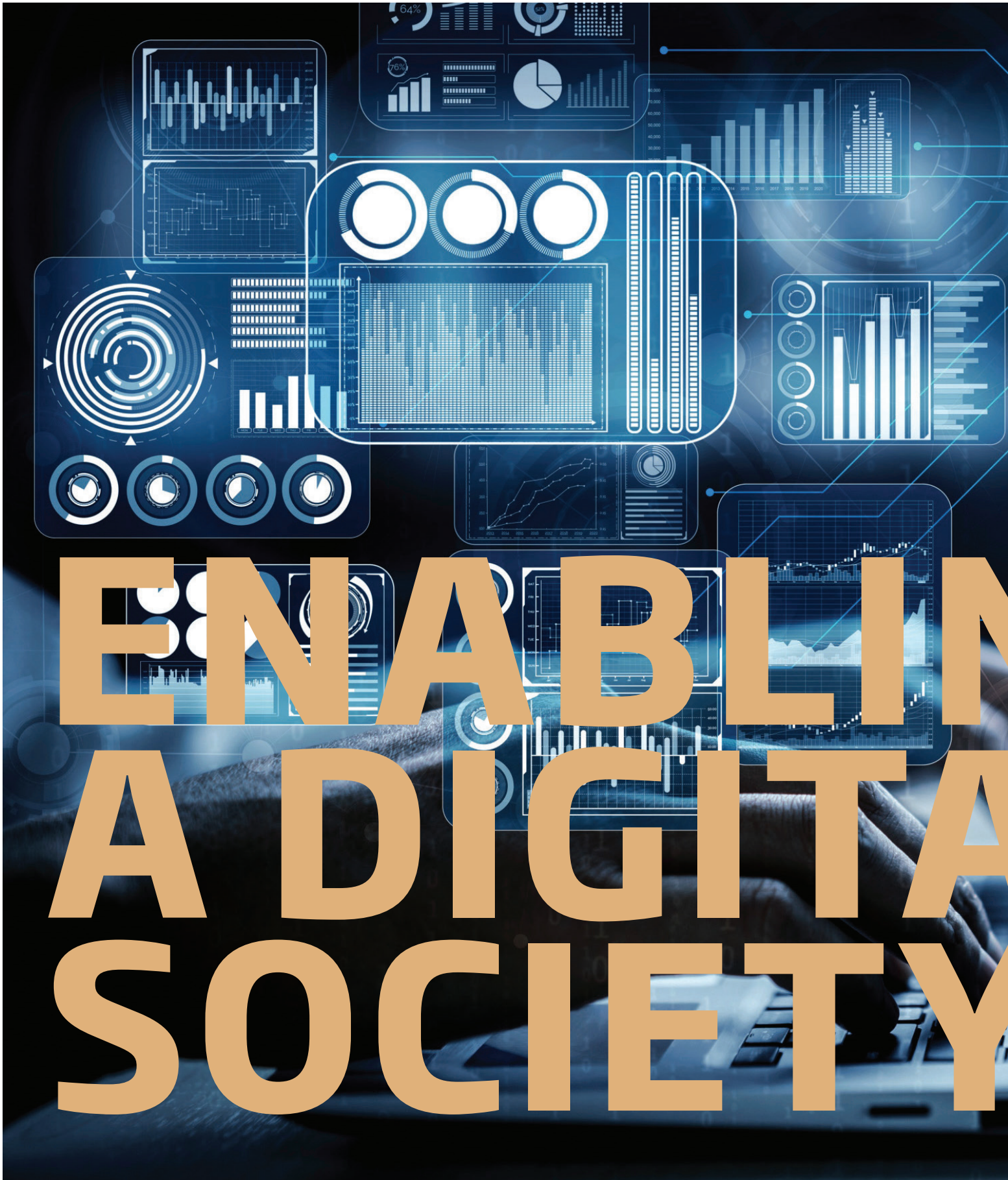
### Visits by Foreign Delegates

MCMC maintains a reputable position as an effective regulator of the communications and multimedia sector among peers in ASEAN and the Asia-Pacific region. Anchored by 20 years of experiences in regulatory, enforcement and industry development, MCMC's practices, notably in the execution of high-impact projects, have regularly been made the point of reference by visiting foreign delegations.

**INTERNATIONAL COORDINATION**

MCMC had received a total of seven (7) working/study visits from foreign delegations in 2019, detailed as follows:





# ENABLING A DIGITAL SOCIETY

In line with the objectives of the Ministry of Communications and Multimedia, MCMC is realising its vision of forming a digital nation by spearheading the nation's digital transformation whilst also being focused on the empowerment of people. The building of more digital infrastructure, creating stimulants for the digital economy and enhancements of technological innovations are some of our achievements to date.

Subsequently, MCMC has implemented strategic initiatives such as National Digital Identity (NDID) framework, the transition of Analogue TV to Digital TV broadcasting, various advocacy programmes as well as postal and courier services empowerment to support the nation's digital transformation agenda.

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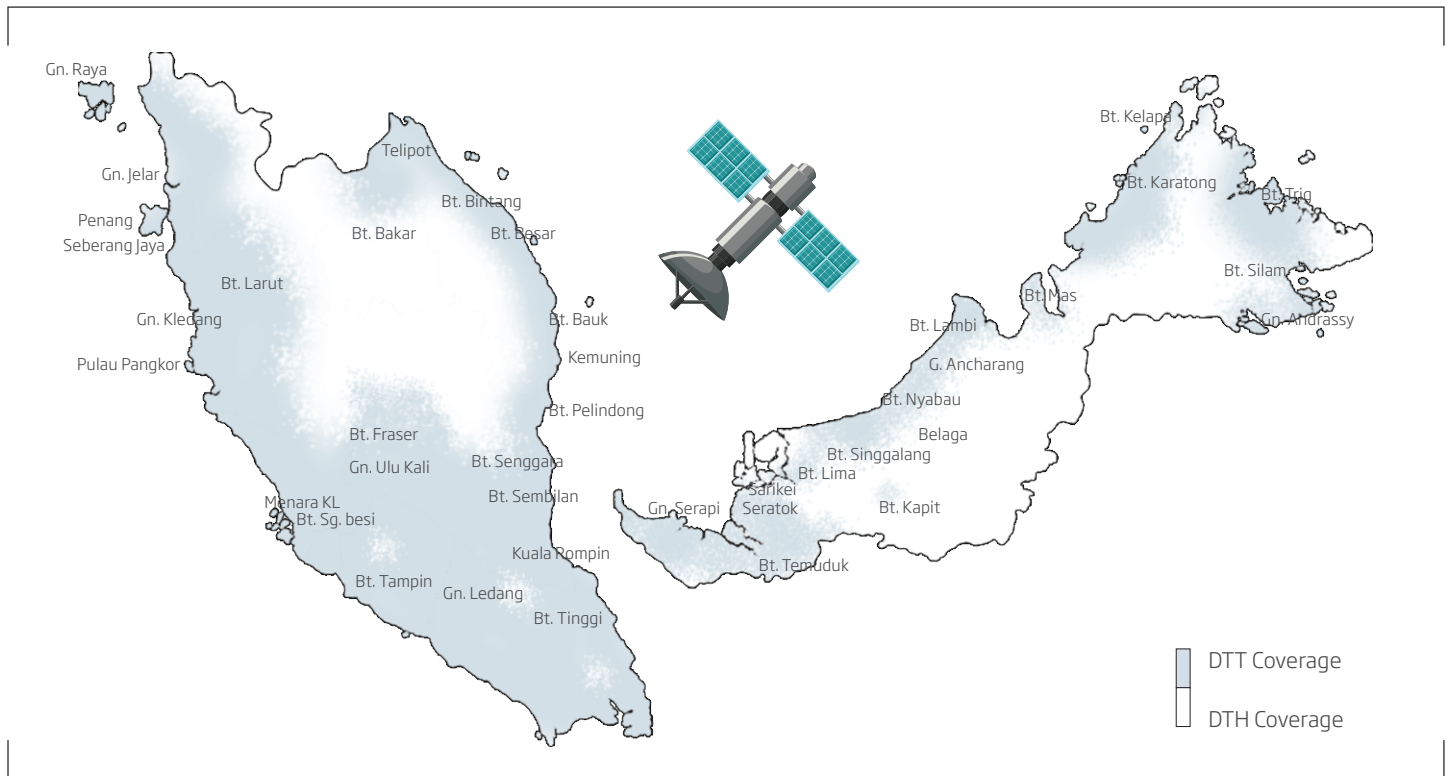
## DIGITAL TV BROADCASTING

Under the National Broadcasting Digitalisation Project, MYTV Broadcasting Sdn Bhd (MYTV) had completed the deployment of Digital Terrestrial Television (DTT) infrastructure and network facilities, including the provision of Digital Multimedia Broadcasting Hub (DMBH) and DTT Digital TV transmitters, supported by Direct-to-Home (DTH) satellite service network, available nationwide.

Via tender process, MYTV was appointed by MCMC in April 2014 as the Common Integrated Infrastructure Provider (CIIP) to undertake the construction, operations and management of DTT infrastructure in Malaysia for a span of 30 years.

As at 22 March 2019, MYTV had accomplished the operationalisation of all 44 Digital TV transmitters which enabled a 95.3% DTT broadcast coverage in populated areas throughout the country.

In order to broaden the DTT broadcasting to remote, secluded and blind spot areas in the country, MYTV had commenced the DTH service through satellite network on 15 November 2018 to complement the DTT broadcast coverage<sup>1</sup>. It proved to be a cure-all as it instantaneously attained a 100% Digital TV broadcast coverage, as illustrated in the illustration below:



The commissioning of DTT transmitter sites for Digital TV, supported by DTH service.

<sup>1</sup> For reference, there are many countries in the world, e.g. United Kingdom, Chile, Finland, France and Italy that have adopted the use of DTH to fill-in coverage gaps left by the DTT.

### myFreeview Digital Broadcasting for the Viewing Pleasure of Fellow Malaysians

myFreeview, the designated brand name for the free Digital TV broadcasting service, currently airs 14 TV channels and six (6) radio stations, without any subscription fees.

Free-to-air (FTA) public broadcasters that are Government and privately owned are constantly offering high quality as well as entertaining contents and programmes to Malaysian viewers at no cost, as explicated in the diagram on the next page.



**DIGITAL TV BROADCASTING**

TV BROADCASTERS	TV CHANNELS	RADIO CHANNELS
TV and radio channels utilising myFreeview platform	<b>RTM</b> <ul style="list-style-type: none"> <li>TV1 (HD)</li> <li>TV2 (HD)</li> <li>TV OKEY (HD)</li> </ul>	<ul style="list-style-type: none"> <li>RTM Sports (HD)</li> <li>RTM News Channel (HD)</li> <li>Nasional FM</li> <li>Ai FM</li> <li>Minnal FM</li> <li>Asyik FM</li> <li>Traxx FM</li> <li>Klasik FM</li> </ul>
 <b>Media Prima</b>	<ul style="list-style-type: none"> <li>TV3 (HD)</li> <li>NTV7</li> <li>TV8</li> <li>TV9</li> <li>CJ Wow Shop (Malay)</li> <li>CJ Wow Shop (Chinese)</li> </ul>	
<b>Alhijrah Media Corporation</b>	<ul style="list-style-type: none"> <li>TV Al-Hijrah (HD)</li> </ul>	
<b>Bernama</b>	<ul style="list-style-type: none"> <li>Bernama TV</li> </ul>	
<b>Astro</b>	<ul style="list-style-type: none"> <li>Go Shop (HD)</li> </ul>	

**Distribution of Set-Top Boxes to B40 Households**

Dependent on the location of recipients, MYTV had distributed two (2) types of set-top boxes (STB) to B40 households, which are the DTT and DTH STB, as shown below:



Users who are not eligible for free STB from MYTV are still able to enjoy myFreeview Digital TV broadcast by purchasing various types of STB in the market, which are made available at computer and electrical appliances chain stores, through Singer agents, as well as via online at [www.myfreeview.tv](http://www.myfreeview.tv), Shopee and Lazada.

Nonetheless, users are advised to purchase STBs that have been certified by SIRIM and feature the MCMC/DTTV labels.

Alternatively, users can also purchase new TVs or make use of their existing TVs that have built-in digital tuner, also known as IDTV (Integrated Digital Television), which have been certified by SIRIM and displays the MCMC/DTTV labels, without having to use the STB separately.

## DIGITAL TV BROADCASTING

### Education and Awareness Campaign that Leads to Analogue Switch-Off (ASO)

Since 2015, Government and privately owned Free to Air (FTA) broadcasters have joined forces with MCMC and MYTV in promoting the brand and services of myFreeview Digital TV Broadcasting. An extensive campaign in educating and raising awareness was vigorously put into effect by tapping on multiple media platforms, ranging from TV, radio, print media, talk show programmes, billboard advertising, press releases, distribution of leaflets, digital marketing, social media engagements, as well as public announcements by TV and radio stations.

The education and awareness campaign was implemented in five (5) phases as indicated in the diagram below:



Phases One (1), Two (2) and Three (3) were pursued since 2016 to develop public awareness in establishing myFreeview brand name. Phases Four (4) and Five (5) were initiated from 2017 until 2019 whereby urging the population to migrate to the Digital TV platform before the final deadline of switching from Analogue TV to Digital TV broadcasting.

### The Pilot ASO in Langkawi

An energetic ASO campaign took its course by riding on two (2) waves during the pilot ASO in Langkawi. The First Wave which began on 9 May to 10 July 2019 was intensively embarked upon to impel the transition to Digital TV services. Thereafter, the Second Wave from 11 July until 20 July 2019 to announce the final deadline of migrating from Analogue TV to the Digital TV platform, which was on 21 July 2019.

The static screen displays on TV1, TV2 and TV3 analogue channels in Langkawi were broadcasted from the Analogue TV satellite in Gunung Raya. The static displays were broadcasted for a week beginning from 21 until 28 July 2019 to inform viewers of making an immediate switch to the Digital TV platform by merely taking a few easy steps as shown in the graphics on the left.



Source: myFreeview, MYTV  
The poster and leaflet design during the First (1st) and Second (2nd) Waves campaign

## DIGITAL TV BROADCASTING

### Preparation for ASO Proceeded in Phases Nationwide

The successful execution of the pilot ASO in Langkawi had set the benchmark in transacting the ASO in stages based on regions. Aggressive ASO campaigning which mimics the approach in Langkawi saw the implementation being segmented to two (2) waves for each region to ensure a smooth transition from Analogue TV to Digital TV before the final ASO deadline.

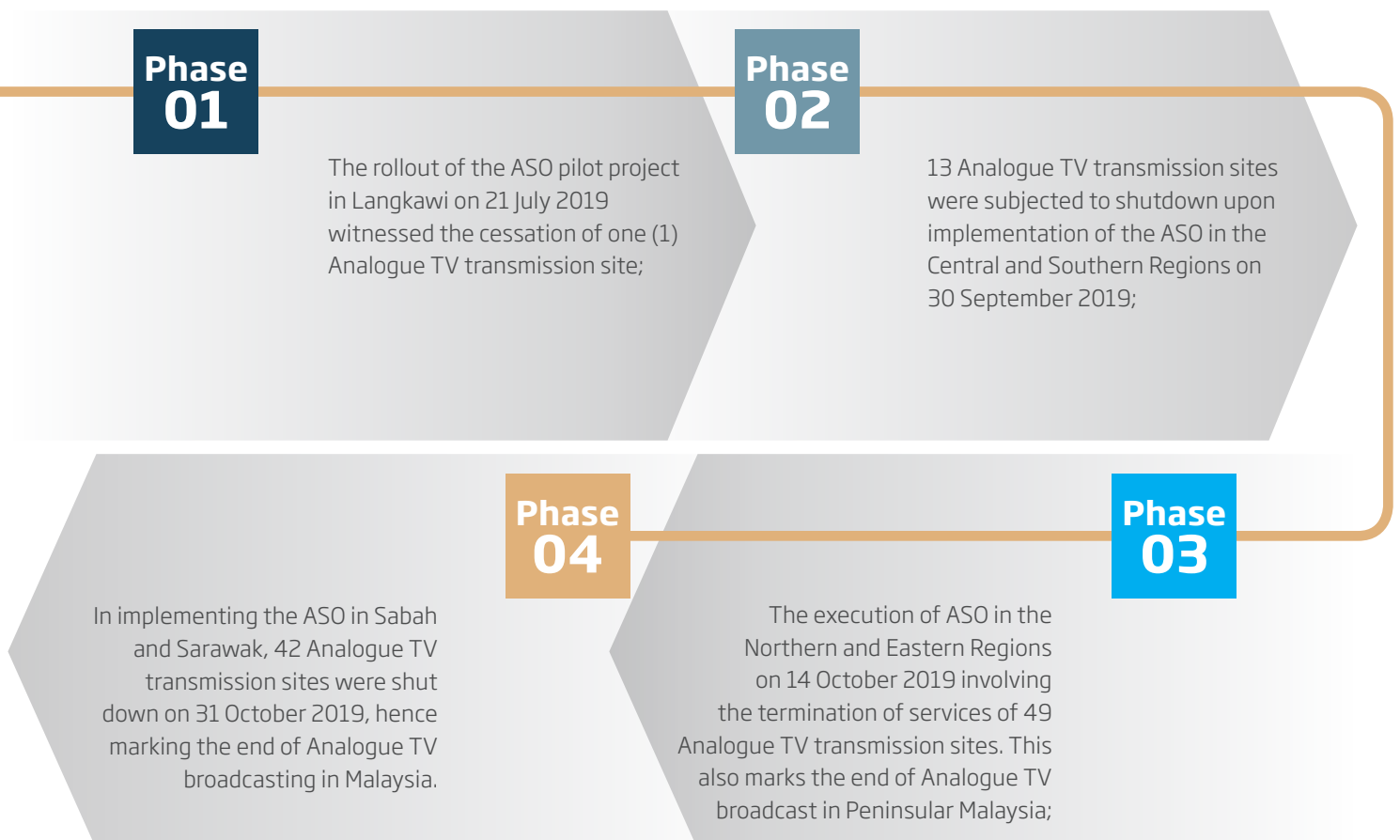
A comprehensive online promotion was further intensified with the involvement of a colourful crowd of stakeholders, including MCMC's Regional and State Offices, 873 Internet Centres, Malaysian ICT Volunteers (MIV), Department of Information Malaysia by means of the Public Information Centre, plus the state governments and its respective agencies.

MCMC had also worked hand in hand with mobile telecommunications service providers, specifically Maxis, Digi, Celcom and U-Mobile in performing public service announcements via the short messaging service (SMS) to ascertain the information on ASO was sent to their respective subscribers.

In ensuring a smooth transition of ASO, 12 Operations Room were set up at MCMC's Regional and State Offices to monitor the situations prior to, during and after the ASO.

### Gradual Implementation of ASO Nationwide

The migration from Analogue TV to Digital TV was accomplished in four (4) phases, whereby a total of 105 Analogue TV transmitters were shutdown in stages in the following regions, nationwide:



## NATIONAL DIGITAL IDENTITY (NDID)

Digital Identity (Digital ID) is a digitally administered self-identification and authentication that refers to a single valid source contingent on biometric elements such as fingerprints, facial and iris recognitions, as well as personal information to be used when seeking a safe, secure and protected digital service.

National Digital ID (NDID) accords the people with convenience whether dealing face-to-face or in a remote manner of the virtual world with digital service providers from the public and private sectors for a safe, secure and time-saving identity authentication. The existence of NDID will allow the public access and the freedom of conducting a wide range of transactions without having to memorise numerous ID identification and passwords.

NDID adopt a more efficient and trusted digital services whilst fueling added value to drive rapid growth in the digital economy that spans across a multitude of service sectors, such as public service, finance, e-commerce, e-wallet, e-health and many more.



### NDID and Digital Transformation

The Cabinet, through the Ministry of Communications and Multimedia Malaysia (KKMM), had mandated MCMC with the task of spearheading a comprehensive study to devise a NDID Framework. The mission was bestowed upon MCMC in view of its function in regulating the Digital Signature Act 1997 (DSA97). Subsequently, in August 2019, the establishment of a National Digital ID Taskforce was announced to execute said mandate.

The NDID Framework shall be the manifestation of a strategic roadmap that takes into account the digital development planning of all related sectors:-

01

The Government Online Services 2.0 (GOS 2.0) by the Malaysian Administrative Modernisation and Planning Unit (MAMPU)

02

Bank Negara Malaysia (BNM) Financial Sector Blueprint 2011-2020

03

Know-Your-Customer (KYC) electronic usage by the banking sector

04

National e-Commerce Strategic Roadmap Plan by the Ministry of International Trade and Industry (MITI)

05

The National Framework and Strategic Roadmap on Sharing Economy by Malaysia Digital Economy Corporation (MDEC)

The NDID Framework was completed in the third quarter of 2020 to be presented for further deliberation by the Government.

**NATIONAL DIGITAL IDENTITY (NDID)**

**Digital Certificate**

Up until 2019, the NDID aspiration was just confined to Digital Certificate utilisation, which is a form of digital identification issued by the Certification Authority (CA). Digital Certificate enables a subscriber to send documents via a secure online data transfer using the Public Key Infrastructure (PKI). PKI entails the purveyance of a secure Internet communication framework empowered by a mixture of certified software, rules, policies and standards.

The use of PKI is regulated by MCMC through the issuance of operating licenses to CAs in accordance with the provision of DSA97. MCMC’s role in ensuring the integrity of the PKI is of utmost importance as it sets the tone for the digital ecosystem as well as to establish trust for it to be utilised by the government, businesses and society at large. The PKI application helps individual and organisations thwarting identity theft and other form of online frauds.

MCMC has a strict compliance regime to ensure a secure use of digital certificate. To that end, a compliance audit is performed annually on all licensed CAs, in conformity with the WebTrust guidelines. These audits adopt a coherent term of reference in order to come to a controlled-framework that permits the assessment of the CAs’ system, policies and procedures. By adopting the WebTrust guideline, the CAs in Malaysia will be WebTrust certified and will be internationally recognised.

Cumulatively, 13.81 million digital certificates were issued until the fourth quarter (Q4) of 2019 as opposed to the 12.36 million issued during the same period in 2018. As with the previous years’ usage pattern, the digital certificates issued for governmental use accounted for the biggest portion from the total overall issuance of digital certificates. The breakdown of digital certificate users are as indicated in the table below:



	DOMESTIC USERS			FOREIGN USERS		Total
	Individual	Corporate	Government	Corporate	Government	
2018	30,632	381,676	11,954,899	55	1,083	<b>12,368,345</b>
2019	43,376	456,674	13,310,123	74	1,083	<b>13,811,330</b>



## TECHNOLOGICAL DEVELOPMENT

### Proof of Concept (POC) Projects under the Green ICT and the Internet of Things (IoT) and New Technologies Grants

The Industry Promotion and Development Grant was established in 2012 for the purpose of developing green ICT technologies, with the initial fund of RM1 million. The grant is managed by the Malaysian Technical Standards Forum Berhad (MTSFB) to foster the development and use of new technologies, in addition to augmenting the proliferation of technology in the local industry. Beginning from 2015, another grant category was introduced to promote technological development under the Internet of Things (IoT) new technologies category.

These grants provide allocations for proof of concept (POC), test beds and any other projects related to the scopes that have been underlined. In 2019, four (4) new projects were identified and approved via grants worth up to RM100,000.00.

Four (4) projects were accomplished in 2019 amounting to RM496,500.00; three (3) of which were grants awarded in 2018 and one (1) project was from a grant awarded in 2019.

PROJECT	GRANT VALUE	PROJECT DETAILS
<p>Elderly Care IoT Platform and Solution</p> <p>Grant recipient: Favoriot Sdn Bhd</p>	<p>RM160,000.00</p> <p>(2018 Grant)</p>	<p>Elderly Care is a project of sentimental value as its development is in consideration and out of concern for the safety of senior citizens, in which missing person cases of those above 65 years of age had escalated to 80% and the rate of accidental fall had climbed to 30%. This project was put in motion for the peace of mind of close relatives to the elderly.</p> <p>The application and devices that were developed allows for the monitoring of the main parameters of an elderly's health by putting on wearable gadgets, in addition to the surveillance and recording of location that is within their mobility range. These are precautions in preventing them from going astray or missing. It also helps to remind them to take their medication right on time. The application also conveys health information to their next of kin.</p> <p>This project was administered in collaboration with a travel and umrah company, MKM Ticketing Travel &amp; Tours. The application's utilisation test was done whilst the participants were performing their umrah through the package offered by the company. Today, the application bears the brand name Raqib - an elderly health and safety monitoring solution, especially during umrah and hajj.</p>
<p>Smart Drive-Through Takeaway Utilising Wireless Powered Passive Tag Automatic Identification for Vehicle Security and Services with Energy &amp; Harvesting Capability</p> <p>Grant recipient: University Putra Malaysia (UPM)</p>	<p>RM132,500.00</p> <p>(2018 Grant)</p>	<p>The essence of this project is entrenched in the development of a smart system for drive-through service in restaurants and taking orders via a seamless automatic vehicle identification (ID) system in which a customer's unique vehicle ID is connected to the customer's smart phone. Additionally, a passive tag that was designed during this project is not just meant to read signals, but the ID tag is in fact complemented with energy harvesting capability.</p> <p>With such application, handing-over of goods run smoothly without being subjected to long queues when taking orders and making payments. This project was undertaken in collaboration with Menate Steak Hub at its branch in Setapak, Kuala Lumpur.</p>

## TECHNOLOGICAL DEVELOPMENT

<p>Development of Energy Efficient, Long Range Communication System for Environmental Monitoring Using Low Power Wide Area Networks for Internet of Things (IoT)</p> <p>Grant recipient: University Putra Malaysia (UPM)</p>	<p>RM119,000.00</p> <p>(2018 Grant)</p>	<p>This project was a study on developing a long distance environmental monitoring system located all the way in Pulau Bidong, Terengganu. It brings into play the Low Power Wide Area Networks (LPWAN). The effectiveness in resorting to the network was tested as it crossed over seas and hills, stretching as far as 30 km, minus the exertion of relay nodes, but instead, it took into account of other environmental factors such as weather and wind speed.</p> <p>This project would be able to accord fellow researchers the ability to acquire a more accurate data that is almost near real-time. Such system could also be adapted by other parties, such as meteorologists and other industries to monitor the parameters of the surrounding temperature, humidity of the air and soil, wind speed, rainfall amount, etc, all from a long distance.</p> <p>This project was proceeded upon a joint effort with UMT Bidong Research Station and Luimewah (M) Sdn Bhd.</p>
<p>Tree Hugger@Cyberjaya</p> <p>Grant recipient: iCycle Sdn Bhd</p>	<p>RM85,000.00</p> <p>(2019 Grant)</p>	<p>Tree Hugger is a mobile phone application that was developed in an attempt to urge recycling activities in Cyberjaya, Selangor. With this application, the public will be able to get on with recycling in an orderly and convenient manner. In fact, they may also be rewarded with incentives through a Business -to- Consumer (B2C) and Consumer-to-Consumer (C2C) system.</p> <p>Moreover, the public will also be made aware of their individual total carbon footprint. The management team of any given area or even local authorities could also monitor and record the communities' recycling activities in their respective locality, be it in a small or large housing area with high density.</p> <p>The system was brought to life courtesy of a synergy formed with Cyberview Sdn Bhd, a government-owned company which was appointed as the administrator and developer of Cyberjaya township. The development of such system holds the promise of being extended nationwide or even overseas, especially with the cooperation of a solicitous and mindful local authority.</p>
<p><b>Total Grant</b></p>	<p><b>RM 496,500.00</b></p>	

Project listed here was completed in 2019. Three (3) more projects with grants amounting to RM249,000 are scheduled to be completed in 2020.



## TECHNOLOGICAL DEVELOPMENT



### Digital Outlook Series 2019: Series 1.0 - 4.0

The Digital Outlook Series 2019 event was orchestrated to generate awareness of the latest technological advancements in the communications and multimedia industry. The series of events which were successfully organised in collaboration with the Malaysian Technical Standards Forum Bhd (MTSFB) with 683 representatives from the public and private sectors.

The first two (2) series which centred its perspective on “Shaping the Digital Landscape” made its debut at the Kompleks Perbadanan Putrajaya on 19 and 20 April 2019 in conjunction with the 5G Malaysia Showcase. The inaugural Series 1.0 took to the floor by presenting a topic on “The Beginning of 5G - Are You Ready?”, whilst Series 2.0 was themed as “Building a Digital Savvy Community”. Both series managed to attract a crowd of 339 participants which was the largest number of people throughout the whole programme.

Series 1.0 had invited 13 local and international experts to speak on 5G and its application in eight (8) different areas namely automotive, manufacturing, agriculture, smart city, healthcare, education, entertainment and security. On the other hand, Series 2.0 brought three (3) local specialists to raise awareness on Electromagnetic Fields (EMF) and electronic wastes.



For Series 3.0 and 4.0, it was held on 20 and 21 November 2019 with the theme, “Revolutionizing Communications, Progressing Humanity”. Series 3.0 focused its discussion on the general challenges of executing 5G, whereas Series 4.0 directed its discussion on delivering digital broadcast. In tandem with Series 3.0, two (2) Memorandum of Collaboration were signed between

MTSFB and 5GMF Japan, as well as between MTSFB and Korea’s 5G Forum. The main objective of these memorandums is the establishment of a formal cooperation in the sphere of 5G mobile communications between the participating parties. It involves research and exchanging relevant information on the study of 5G.



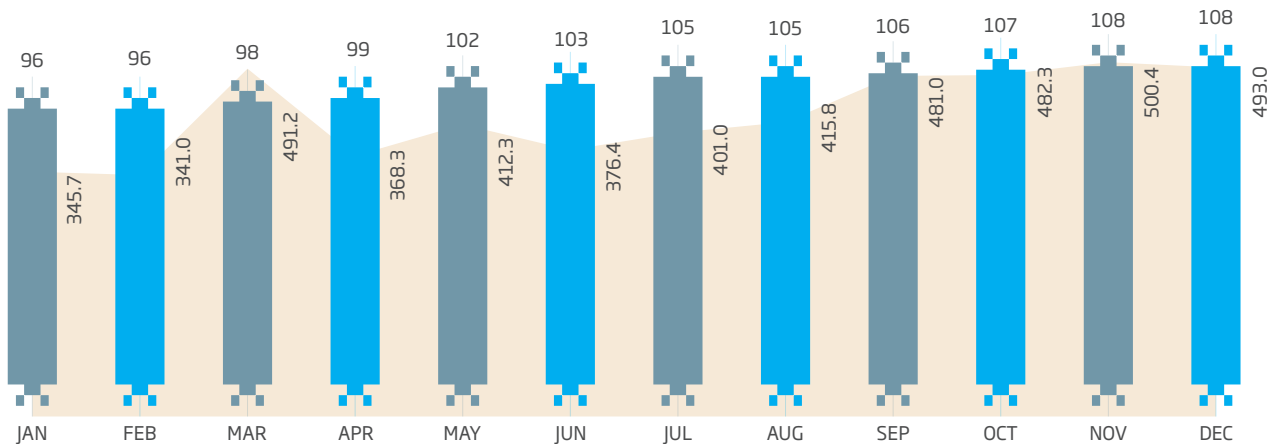
**TECHNOLOGICAL DEVELOPMENT**

**Malaysia Internet Exchange (MyIX)**

Malaysia Internet Exchange or abbreviated as MyIX came into existence in 2006 as a non-profit and neutral internet traffic exchange platform that connects internet service providers (ISPs) and content providers to complete the domestic internet traffic flow. Its purpose is to ensure domestic internet traffic remains within the country and allow direct routing to local content and thereby enabling cost savings whilst enhancing a steady stream of internet traffic.

In 2019, the number of MyIX peering had steadily increase with a final count of peering totaling 108 as of December 2019, whereas the highest traffic was recorded at a rate of 500.4 Gbps in November 2019. The diagram below depicts MyIX's bandwidth usage growth pattern and peering in 2019:

**Bandwidth Usage and Peering Growth Pattern in 2019**



Bandwidth Usage and Peering Growth Pattern in 2019

Apart from that, 2019 also saw the addition of several new members, from telecommunications service providers and international companies as indicated below:

**01**  
China Mobile International (M) Sdn Bhd

**02**  
Netflix

**03**  
Jastel Network Co. Ltd

**04**  
NewMedia Express Pte Ltd

**05**  
Yahoo!

**06**  
Orient Telecoms Sdn Bhd

**07**  
SMARTSEL Sdn Bhd



## TECHNOLOGICAL DEVELOPMENT

### The Smart Hadith Mobile Phone Application Development



MCMC and the Department of Islamic Development Malaysia (JAKIM) cooperated to empower the utilisation of ICT amongst Muslims in Malaysia. One of the initiatives that materialised was the Smart Hadith mobile phone application. By offering a free and convenient platform that is certified by both JAKIM and the Ministry of Home Affairs (KDN), this application allows Muslims access to a collection of hadith.

With “Hadis Sahih di Hujung Jari”, the Smart Hadith present a hadith from a trusted source. The compiled hadith comprise of contents from nine (9) scriptures (Sunan Tis’ah), Hadith Qudsi and other scripture.

This application was developed for the benefit of the general public, teachers, researchers, students and others.

FEATURES	CONTENT
Main Page	Display the daily feed of hadith in the Mutiara Hadith section, displaying the search bar and a list of favourite hadith.
Search Page	To search for specific hadiths based on certain keyword or based on user’s detailed filtering using the hadith’s name of collection, name of scripture, chapters, the narrator or the numbering of the hadith in a certain scripture.
Bookmark	Display a list of hadiths that have been marked by the user who has logged in. The hadiths that have been marked can be revised via any device that uses the same account.
User Profile	Display the user’s name, favourite topic, total number of hadiths that have been read, number of questions that have been sent and a list of favourite hadith by said user. User can log in by connecting to their Google or Facebook account.
System Setting	User is able to refer to the setting and application information through this function. Additionally, the user is also able to change the setting to night mode and send feedbacks to the system administrator via this function.

*Functions and application contents of Smart Hadith*

As of now, this application is only able to display the Malay language translation. Every word of the translated hadith that had been uploaded onto this application was examined and a detailed check by JAKIM, as well as a panel of certified specialists.

**TECHNOLOGICAL DEVELOPMENT**

**Advocacy and Awareness Programme**

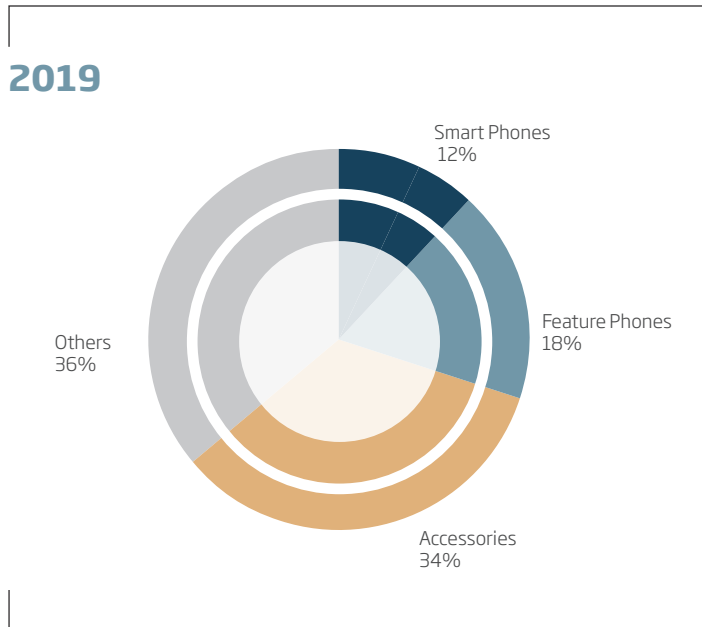
**Mobile e-Waste Recycling Programme**

In its bid to deal with the issue of electronic wastes, the telecommunications/ICT industry, MCMC, along with its strategic partners had continued the effort which was initiated in 2015, known as the Mobile e-Waste programme.

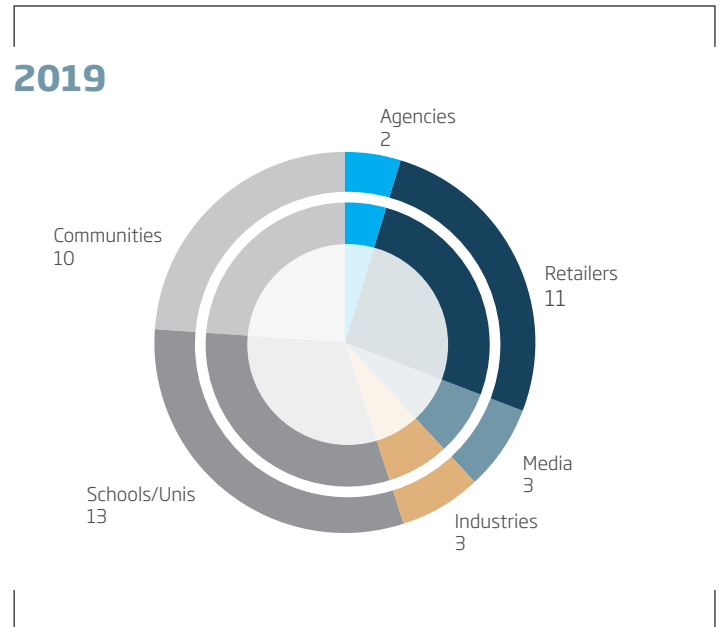
The campaigns and activities that took place through this programme had heightened public awareness on the importance of recycling electronic wastes, especially smartphones, in a safe manner.

The Mobile e-Waste collection trend showed an increase since 2015. The total accumulated collection had rose to more than 40% (1,294.051 kg) to 4,401.06 kg in 2019 as compared to 3,107.009 kg in 2018. Overall, handphone accessories and other devices represented the highest percentage followed by feature phones and smart phones.

**Handphones and Accessories Collection in 2019**



**Mobile e-Waste Smart Partners in 2019 (by Category)**



Having started with just six (6) strategic partners from the telecommunications industry back in 2015, Mobile e-Waste currently has 42 active collaborative partners with the placement of more than 150 collection boxes throughout the country. These strategic partners comprise of numerous industries, retail companies, media agencies, government agencies and NGOs, as well as schools and universities, as illustrated in the diagram above.

On top of that, 847 Internet Centres all over Malaysia are also provided with the Mobile e-Waste collection boxes to make it easier for the public to discard their unwanted mobile electronic products.

## STANDARDS DEVELOPMENT

MCMC is responsible in developing standards or technical codes that cover interoperability aspects and safety of network facilities through the technical standards forum.

In line with the Communications and Multimedia Act 1998 (CMA 1998), MCMC had designated the Malaysian Technical Standards Forum Berhad (MTSFB) as the Technical Standards Forum in 27 November 2004 with the aim of developing Voluntary Industry Codes.

For 2019, seven (7) technical codes were successfully registered as Voluntary Industry Codes under Section 95 of the CMA 1998 as listed in the table below:

NO.	DOCUMENTS
1.	MCMC MTSFB TC T003:2019 - Private Automatic Branch Exchange (PABX) System for Connection to Public Switched Telephone Network (PSTN) and Internet Protocol (IP) Network (Second Revision)
2.	MCMC MTSFB TC T011:2019 - Digital Terrestrial Television (DTT) Broadcast Service Receiver - Common Test Suite (First Revision)
3.	MCMC MTSFB TC G019:2019 - Scheduled Waste Management for Base Station (Inclusive of E-Waste)
4.	MCMC MTSFB TC T013:2019 - Internet Protocol version 6 (IPv6) - Equipment Compliance (First Revision)
5.	MCMC MTSFB TC G009:2019 - Information and Network Security - Requirements (First Revision)
6.	MCMC MTSFB TC G020:2019 - Information and Network Security - Cyber Insurance Acquisition
7.	MCMC MTSFB TC G021:2019 - Information and Network Security - Monitoring and Measurement of Security Control Objectives



**STANDARDS DEVELOPMENT**

**Certification Programme**

Pursuant to the Communications and Multimedia (Technical Standards) Regulations 2000, any communications equipment or person who wish to undertake or conduct any activity in a designated skill area shall be certified to ensure compliance with the standards or proficiencies required.

All certification programmes are conducted by Registered Certifying Agencies appointed under Section 186 of the CMA 1998, except for the amateur radio operator certification which is handled by MCMC.

As of 31 December 2019, four (4) organisations were appointed as Registered Certifying Agencies, as reflected in the table below:

NO.	ORGANISATION	REGISTRATION CATEGORY	DATE OF APPOINTMENT
1.	SIRIM QAS International Sdn Bhd (SQASI)	Certification of Communications Equipment	3 September 2003
2.	Malaysian Maritime Academy (ALAM)	Certification of proficiency in a designated skill area for radio operators (Restricted Operator’s Certificate and General Operator’s Certificate)	3 September 2003
3.	University of Malaysia Terengganu ( UMT)	Certification of proficiency in a designated skill area for radio operators (General Operator’s Certificate)	1 March 2011
4.	Telekom Malaysia Berhad (TM)	Certification of proficiency in a designated skill area for other than radio operators (cabling provider)	15 July 2002

List of MCMC’s Registered Certifying Agencies



## STANDARDS DEVELOPMENT

The total number of certifications issued in 2019 by MCMC and Registered Certifying Agencies are as follow:

NO.	CERTIFYING AGENCIES	CATEGORY	TOTAL NO. OF CERTIFICATION
1.	MCMC	a) Amateur Radio Operator (Class A)	18
		b) Amateur Radio Operator (Class B)	419
		Total	437
2.	SQASI	a) Communications Equipment	5306
		Total	5306
3.	ALAM	a) General Operator's Certificate (GOC)	653
		b) Restricted Operator's Certificate (ROC)	100
		Total	753
4.	TM	a) Cabling Provider	5639
		Total	5639
5.	UMT	a) General Operator's Certificate (GOC)	0
		Total	0
<b>OVERALL TOTAL</b>			<b>12,135</b>

*Total number of certification issued in 2019*

In 2019, MCMC had conducted 144 computerised Radio Amateur Examination (e-RAE) sessions at 14 Pusat Internet Komuniti (PIK) throughout Malaysia. MCMC also carried out four (4) computerised Morse Code (e-CW) tests in Cyberjaya.

Candidates who had passed the e-RAE will receive the Class B Amateur Radio Operator Certificate, whereas successful candidates for the e-CW tests will receive the Class A Amateur Radio Operator Certificate.

## Market Surveillance

Teaming up with SIRIM QAS International Sdn Bhd (SQASI), MCMC has been conducting market surveillance programmes since 2012. The purpose is to monitor continuous compliance of communications equipment with the standards and technical codes registered by MCMC. This is pertinent in safeguarding users' safety, promoting interoperability and preventing radio frequency interference.

In striving to intensify compliance of communications equipment in the market, the market surveillance programme is segregated into two (2) parts, specifically, the pre-market surveillance which

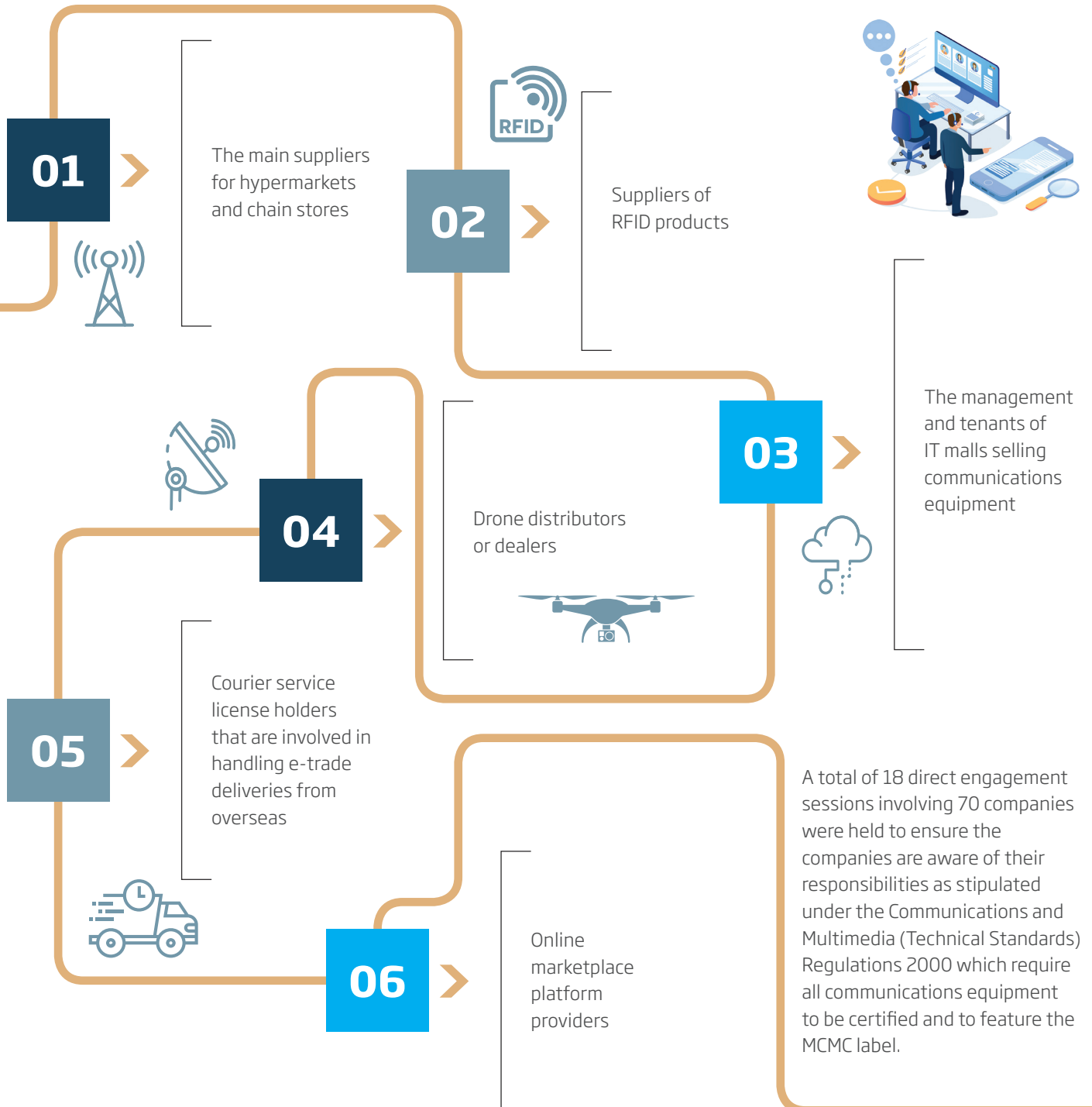
was performed from March until December 2019 and the market surveillance itself which is from January to October 2020.

The pre-market surveillance is intended to heighten awareness amongst suppliers and online marketplace platform providers on the requirement for certification by means of three (3) primary activities, which are direct engagement with the industry, surveillance of certified communications equipment and performing data analytics of communications equipment that are sold through online marketplaces.

**STANDARDS DEVELOPMENT**

**Industry Engagement**

A direct engagement involving six (6) categories of industry which have been identified based on the findings of previous market surveillance results or complaints that were received and which are as follow:



## STANDARDS DEVELOPMENT

### Check Your Label Campaign

Check Your Label is an awareness campaign to educate the public on the significance of purchasing communications equipment that bear the MCMC label, in which it indicates that such equipment has been certified in accordance with specified standards. The public is also urged to check on the MCMC labels to ascertain the validity of the labeling found on the communications equipment by using Check Your Label mobile application which can be downloaded from Google Play Store and Apple App Store.

In 2019, the Check Your Label promotional campaign was stepped up through advertisements on public transports. Two (2) Light Rapid Transit (LRT) coaches plying the Ampang and Kelana Jaya routes were chosen in promoting Check Your Label. The campaign materials were displayed on the exteriors of the coaches, passengers' standing holders or straphangers as well as on the advertisement panels inside the coaches. A total of five (5) units of Vertical Light Boxes (VLB) exhibiting Check Your Label adverts

were positioned at LRT stations with the highest number of commuters, such as Masjid Jamek, KLCC, KL Sentral, Kelana Jaya and Subang Jaya.

Aside from that, the Check Your Label promotional advertisement also appeared on the exterior of a Rapid bus operating in Georgetown, Penang.

At the same time, Check Your Label also made its mark through public service announcements which were aired over eight (8) radio channels and six (6) television channels beginning from April 2019.

The accumulated number of downloads for the Check Your Label mobile application until December 2019 hit 128,831 downloads whereas the request of serial numbers and International Mobile Equipment Identity (IMEI) for communications equipment recorded to have reached 109,932 for the same period.



Check Your Label promotion on the exterior of two (2) LRT coaches for the Kelana Jaya and Ampang lines

The Vertical Light Boxes (VLBs) at main stations of the LRT Kelana Jaya and Ampang lines were also utilised in the Check Your Label promotion



Check Your Label advertisements were also visible in the interiors of LRT coaches plying the Kelana Jaya and Ampang routes



A Rapid bus in Penang decorated with the Check Your Label advertisement on its exterior





## DIGITAL SOCIETY

Aspiration has fueled MCMC forward in advocating the realisation of a smart Malaysia, which demands for the people to be more agile and receptive to new technologies. It is not just about leveraging the advantages of technological advancements to elevate the quality of life in terms of social and economic stature, but in fact, it is about being apart of an international community that is capable of driving technological progress.

To that end, MCMC also strives towards improving technology usage in society by embarking on dedicated programmes which aims to amplify digital talents with knowledge, shifting mindsets and outfitting them for future-ready skills, particularly within the scope of fifth generation (5G) wireless technology, Internet of Things (IoT) and smart city.

### The Makerthon Competition

This initiative is intended to develop digital technology capabilities and expertise in the industry, community and amongst students. In addition, it also aims to spark students' and the community's awareness and interest specifically in the spheres of science, technology, engineering and mathematics (STEM). Empowered with the synergy accorded by telecommunications companies, international bodies, the industry and community, a number of primary programmes were held, such as:

#### a. ASEAN Makerthon and 5G Disruptive Technology TechTalk

ASEAN Makerthon 2019 was approved by ASEAN Telecommunications and IT Ministers (TELMIN) in November 2017 for the purpose of establishing a network and nurturing a solid pool of makers and creators within the ASEAN region. Generally, Makerthon is about providing a launch pad for new creators and inventors to showcase their innovations in conformity with the theme given by the organisers.

Anchored by the theme 'Impact of the 5G Revolution Towards Industrial Revolution 4.0', the ASEAN Makerthon 2019 attracted 10 teams that consists of 30 contestants representing universities in ASEAN.



Contestants and Winners of ASEAN Makerthon 2019 posing with the secretariat of the competition (December 2019)



Participants of ASEAN Makerthon and 5G Disruptive Technology TechTalk promoting 5G initiatives (December 2019)

The 5G Disruptive Technology TechTalk was held in conjunction with ASEAN Makerthon 2019 to discuss the latest development regarding two (2) of MCMC's initiatives, specifically the National Fiberisation and Connectivity Plan (NFCP) and the 5G Malaysia Demonstration Projects (5GDP). Technology specialists from Ericsson, Celcom Axiata, University of Technology Malaysia and ARM shared their insights on the 5G technology and its impact on the industry.

## DIGITAL SOCIETY

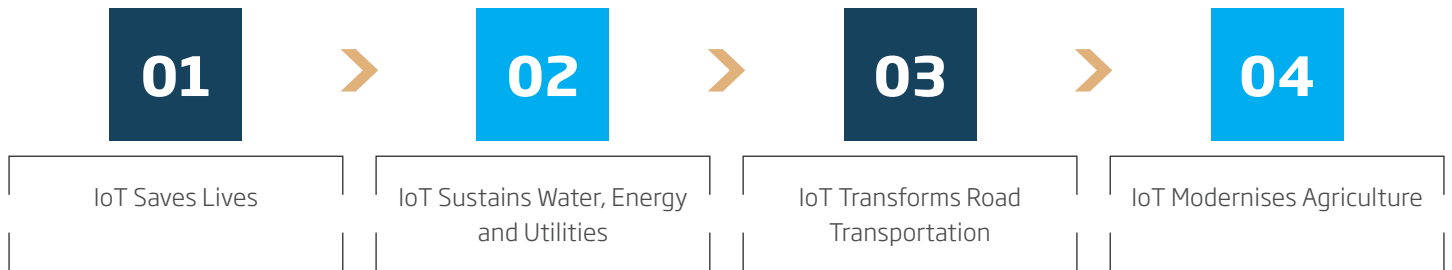
### b. POS Aviation Hackathon 2019 (PACKT2019)

In August 2019, MCMC, in collaboration with POS Aviation Sdn Bhd and Microsoft Malaysia, had organised POS Aviation Hackathon 2019 (PACKT2019). A total of 70 programmers comprising of 25 teams were aided by a number of industry experts from POS Aviation in crafting a feasible solution by utilising technologies related to the 4th Industry Revolution (IR4.0).

PACKT2019 had inspired fellow programmers to employ different skill sets to create applicable software prototypes and solutions that correspond with the challenges faced by POS Aviation in their daily operations; these include ground handling, in-flight catering, cargo handling and aircraft engineering.

### c. 'Hack for Good' Narrowband IoT (NB-IoT) Hackathon

MCMC, along with Ericsson, Celcom Axiata and University Technology of Malaysia hosted the very first Narrowband IoT Hackathon in Malaysia in March 2019. The Hackathon sets the scene to encourage university students and professionals to construct IoT solutions that suit Malaysian scenario, according to the following themes:



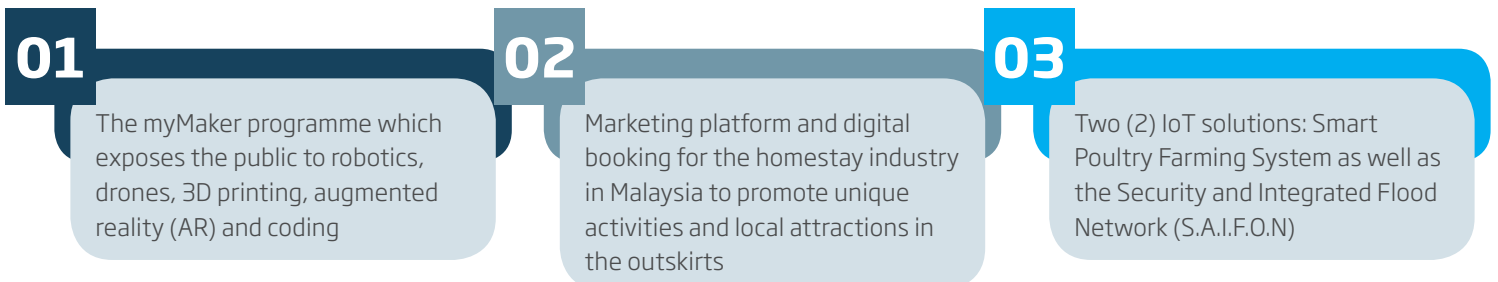
This competition was opened to public and private institutions of higher learning, as well as professional developers, programmers, designers and engineers. A total of 140 entries received for this competition.

## Digital Lifestyle and Technology Exhibitions

Participation in conferences and exhibitions whether at the national or international level is an effective approach in cultivating awareness and digital literacy amongst the general public, particularly in bridging the digital divide between the urban and rural community.

### a. Kembara Digital Malaysia (Malaysian Digital Roadshow - KDM)

The pursuance of KDM is meant to bolster knowledge and awareness in the community on the significance of applying digital technology. The first KDM programme kicked off in Ipoh and officiated by the Minister of Communications and Multimedia in July 2019, whilst the second showcase took place in Kuala Pilah in November 2019. During the roadshows, the following initiatives were displayed:



**DIGITAL SOCIETY**

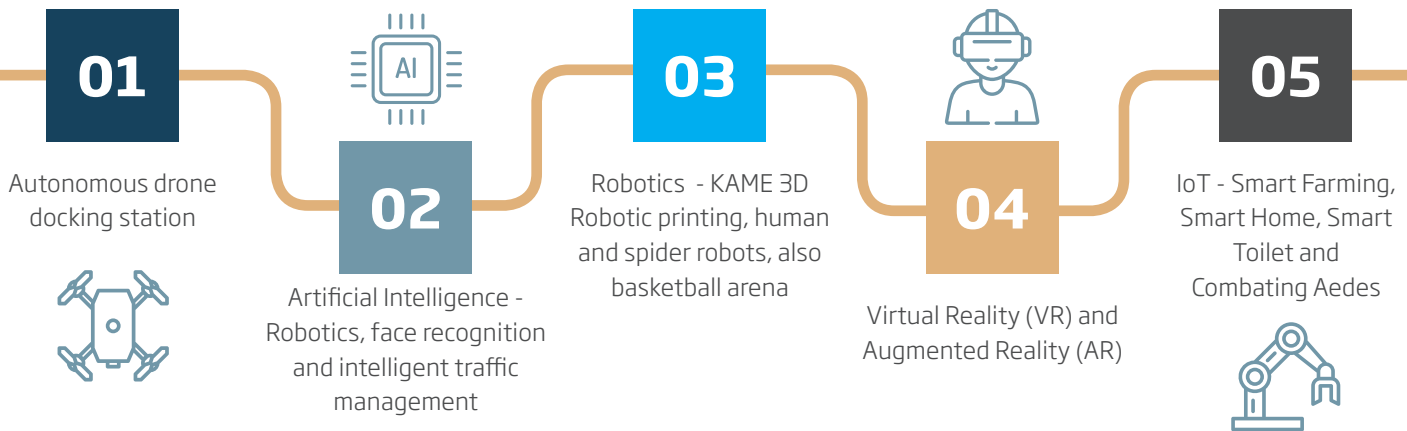


*YB Dato' Eddin Syazlee bin Shith controlling the myMaker robot at the KDM event in Kuala Pilah (November 2019)*

**b. 5G Malaysia Test Exhibition in Putrajaya**

The exhibition was held on 18 April 2019 in Putrajaya to provide Malaysians from all walks of life the opportunity to witness and experience for themselves the advantages of 5G technology and how it can positively impact their lives.

The myMaker programme is one of MCMC's initiative in promoting the 5G exhibition, wherein a plethora of fascinating interactive showcase for the benefit of attendees, specifically to provide an understanding about cutting-edge technologies which relates to IR4.0. Amongst the interactive showcase 16 myMaker technological partners participated:



**c. Asia IoT Business Platform Conference**

The industrial convened in Kuala Lumpur for the 29th Edition of Asia IoT Business Platform Conference in April 2019.

MCMC was one of the panelist to take on the issue of 'Current IoT Development and Opportunities in Malaysia and the Strategies in Moving Forward'. MCMC also presented two (2) IoT solutions as follow:

- 01**  
Smart Poultry Farming System - This system reinforces operational efficiency in managing data collection and real-time monitoring. It results in a reduced rate of chicken mortality.
- 02**  
Security and Integrated Flood Network (S.A.I.F.O.N) - An early warning system to mitigate flash floods which is currently being implemented in Kota Belud, Sabah.

## DIGITAL SOCIETY



*Learning visit by UiTM students to the Experiential Learning Space (ELS) MCMC (November 2019)*

## Digital Technology Educational and Outreach Programmes

Educational and outreach programmes are pertinent in bridging the digital divide whilst providing early exposure to digital literacy. It also serves as a medium to harness talents for the future as the programme exposes students and youth to knowledge, skills and basic behaviour in reference to digital technology.

### a. Kuala Lumpur Engineering Science Fair (KLESF) and myMaker Robotics Challenge (MRC)

The Kuala Lumpur Engineering Science Fair (KLESF) which was held in April 2019 was made possible through the joined efforts of MCMC, ASEAN Academy of Engineering and Technology, Malaysian Industry-Government Group for High Technology (MIGHT), University of Tunku Abdul Rahman, the Institution of Engineers Malaysia and Ministry of Education, Malaysia.

The international fair was filled with fascinating interactive activities for students and youngsters enticing them to study Science, Technology, Engineering and Mathematics (STEM). MCMC's display became the highlight of the event amidst a circle of 33 technology partners in the spheres of IoT, IR4.0 disruptive technology, 5G and smart city. The event attracted 60,000 visitors, comprising of students, teachers, parents, youths, academicians, government agencies, professionals and industry players.

myMaker Robotic Challenge was presented as the main highlight of KLESF to evoke awareness on the prominence of IoT and robotic technologies in developing the digital culture. Participants come from of 21 schools, tertiary institutions, and five (5) teams from Indonesia.

### b. Learning Visit to the Experiential Learning Space (ELS) and myMaker IoT Lab

The Experiential Learning Space (ELS), located at MCMC had received nine (9) visits from local higher educational institutions, government agencies, as well as delegates from Singapore. Specifically, the visiting parties were the Malaysian Anti-Corruption Commission (MACC), National Institute of Public Administration (INTAN), PETRONAS University of Technology, MARA University of Technology, UCSI University and SEGI College.

Meanwhile, MCMC's dynamism was further translated into the hosting of 31 thought leadership programmes with regards to the initiatives championed by MCMC, covering subjects such as smart city, IoT, 5G, STEM, IR4.0 and myMaker. These topics were delivered and articulated to around 3,000 audiences.

### c. IoT Innovation Space at the Sabah State Library

The collaboration between MCMC and the Sabah State Library had brought about the opening of an area for fellow inventors or a makerspace at the State Library in Tanjung Aru, Kota Kinabalu, Sabah. A dedicated area known as the IoT Innovation Space was launched by the Sabah Chief Minister in July 2019. The main objective of this initiative was to boost the function of the library as the epicentre of activities for creators and innovators in proliferating ideas, establishing teamwork, assembling their creations as well as carrying out experiments.



*YAB Dato' Seri Shafie Apdal officiating the IoT Innovation Space at the Sabah State Library (July 2019)*

**DIGITAL SOCIETY**

**Smart City Initiatives**

A strategic partnership between the public and private sector has been the crucial ingredient in actualising a thriving and sustainable smart city agenda. Along with numerous service providers, MCMC strives to deliver the appropriate ICT and digital infrastructure for the construction of a smart city. MCMC is also on hand to advise the state government and stakeholders regarding related technologies and smart solutions that could be embodied in addressing the challenges of managing a city. Here are among achievements that have been attained:



MCMC receiving a token of appreciation as a fellow member advocating the Melaka Smart River Programme (July 2019)

- a. MCMC was appointed as a committee member of the Smart Economic Cluster and Special Cluster under the Melaka Smart City Advisory Council (SCAC);
- b. Coordinating the Smart River Challenge Competition which is part of the Melaka Smart River Programme. It was made possible through a collaboration between the Melaka SCAC, MCMC, Technical University of Malaysia Melaka and the Melaka River and Coastal Development Corporation; also
- c. MCMC was invited to present the smart city initiatives in the presence of representatives from the state government, federal agencies, industry and other stakeholders during the Kelantan Smart City and Digital Economy Conference (KIDEX), as well as during the Perak State Government Digitalisation Workshop.

**Internet Centres**

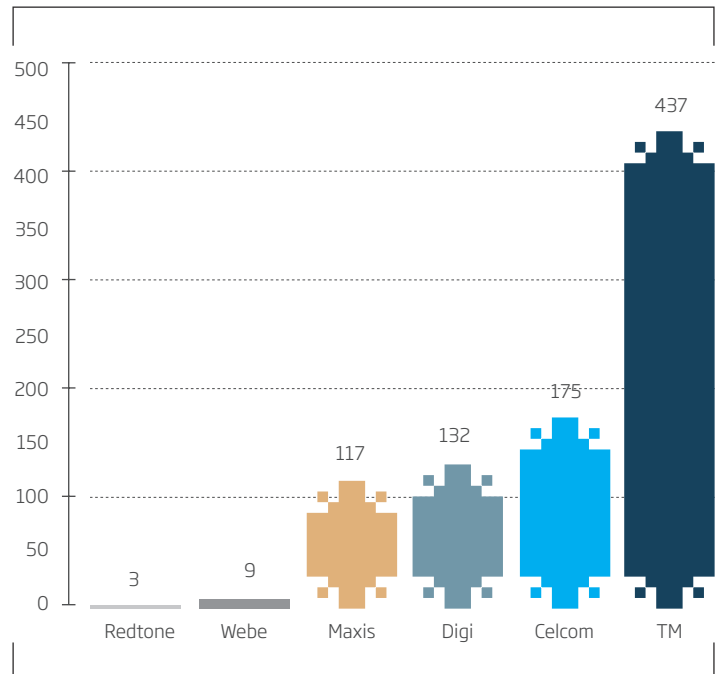
Pusat Internet (PI) is one of the projects under the Universal Service Provision (USP) initiatives started in 2007 by MCMC.

The objective of the PI is to provide Internet access services focusing on underserved areas on a collective basis. Besides internet connectivity, PI also offers various human capital development programmes like ICT, entrepreneurship and multimedia trainings for the local community.

As at 31 December 2019, over 600,000 members and 500,000 non PI members have enjoyed the benefits from the variety of services offered at 873 PI throughout the country.

These centres are managed by six (6) service providers, namely Telekom Malaysia, Celcom, Digi, Maxis, Webe and Redtone.

**The Breakdown of Internet Centres According to Service Providers**



The Breakdown of Internet Centres According to Service Providers



# ADVOCACY

MCMC resonates with the mission of propelling all Malaysians towards a virtuous culture known as digital citizenship. Such pursuit is expected to be accomplished by utilising several platforms, such as Klik Dengan Bijak™ (Click Wisely - KDB) and Malaysia ICT Volunteer (MIV). As outlined by UNICEF, digital citizenship narrates a prudent and responsible online culture and it complements Internet users of all ages with the capability to evaluate, navigate and create a broad assortment of media contents and services.

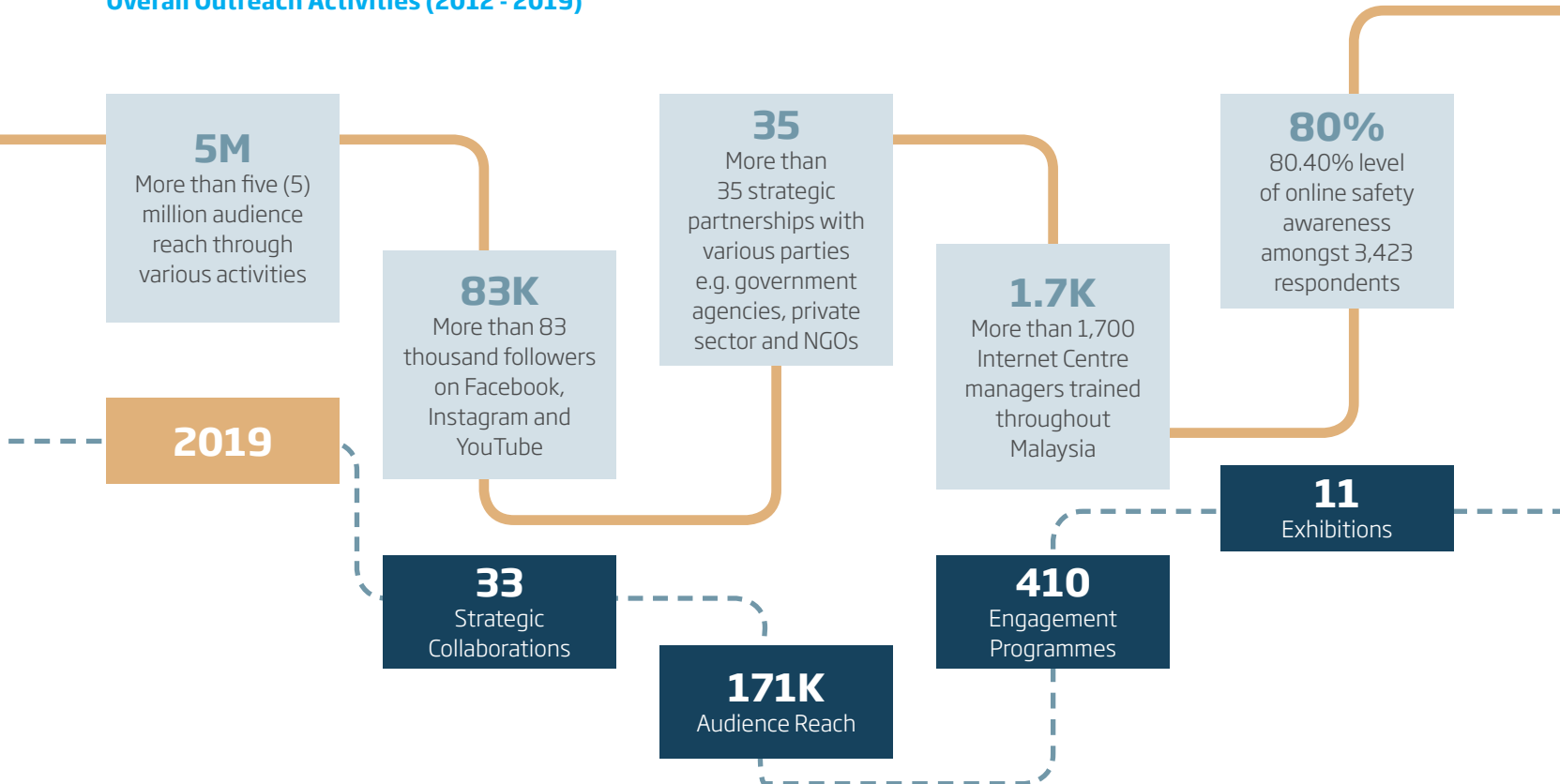
## Klik Dengan Bijak™ (KDB)

The key message echoed by KDB initiative revolves around digital inclusion, positive Internet usage, digital leadership and regulatory aspects. In 2019, not less than 410 programmes were executed nationwide with an estimated participation amounting to more than 171,000 attendees. The programmes were carried out in cooperation with 33 strategic partners which included government agencies, private sector, non-governmental bodies and institutions of higher learning.

Overall, since its initial rollout in 2012 up until 2019, the KDB initiative has more than 83,000 followers on social media. KDB succeeded in training around 1,730 staff of 871 Internet Centres from all over the country, to educate local communities on safe and responsible Internet usage.

## KLICK DENGAN BIJAK™ (CLICK WISELY)

### Overall Outreach Activities (2012 - 2019)



KDB's Entire Outreach Activities

ADVOCACY



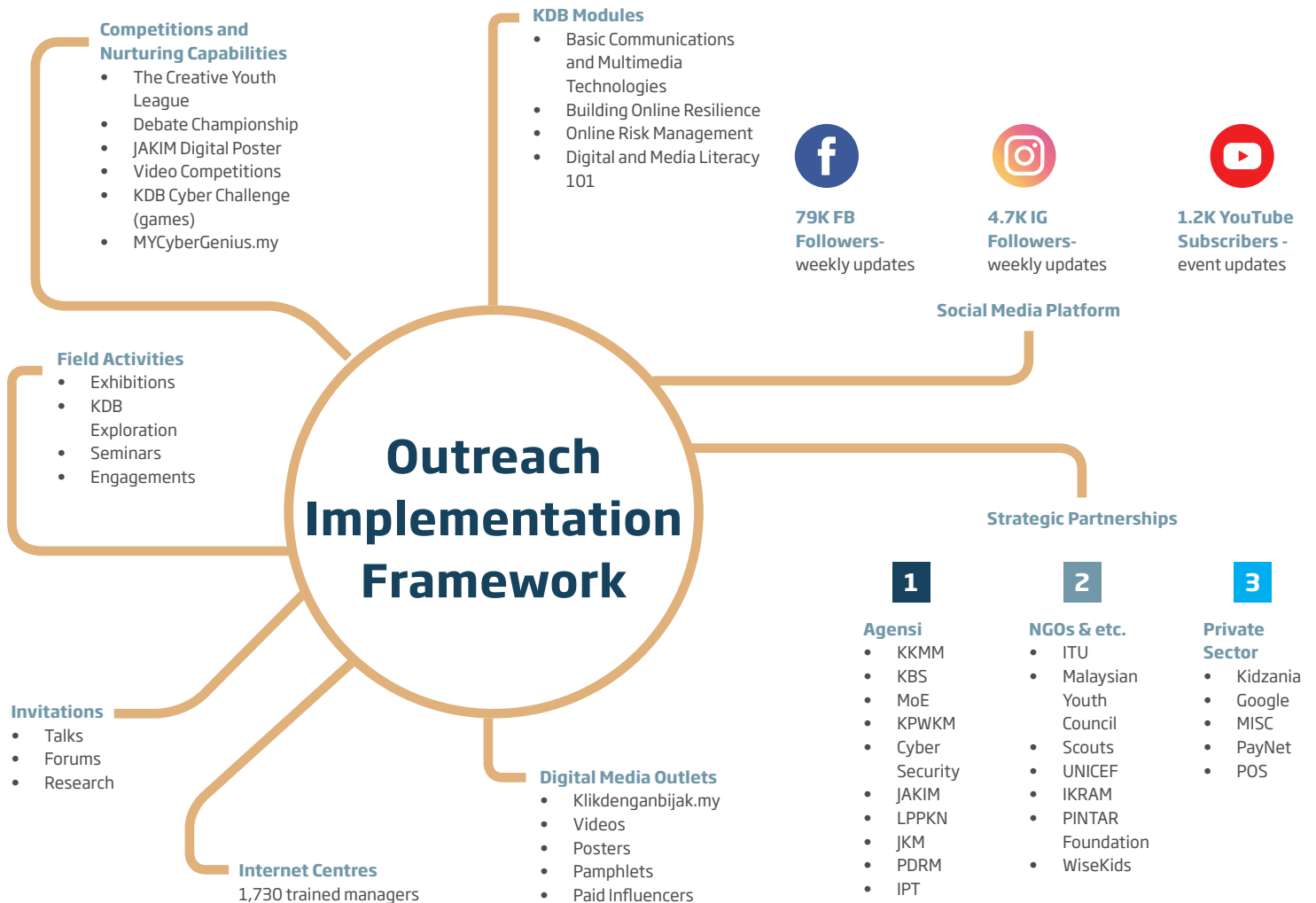
Klik Dengan Bijak programme held at SK Putrajaya Presint 11 (3), Putrajaya (Oct 2019)



A School Programme on Upholding the Rukun Negara at the Johor State level, Bandar Penawar, Kota Tinggi, Johor (Aug 2019)

The KDB modules that were adopted to eloquently propagate KDB's messages including Basic Communications and Multimedia Technologies, Building Online Resilience, Online Risk Management as well as Digital and Media Literacy 101. Internet users were exposed to issues relating to regulatory aspects of cyberspace in Malaysia such as digital parenting, child online protection especially cyber-bullying, sexual grooming, evaluating online contents and identifying online dirty tricks.

Outreach Implementation Framework



## ADVOCACY

### Malaysia ICT Volunteer (MIV)

MIV is committed to empower Malaysians standard of living by training the local communities to become digital citizens capable of benefiting from ICT services.

MIV's successfully recruited 2,385 volunteers and held 131 workshops to train them. About 847 volunteer projects were organised throughout the year based on MIV's focus groups: MIV with Community, MIV with International ICT Volunteers, International ICT Volunteers and MIV with Schools.



MIV with School at the Johor State Education Department (March 2019)

Malaysian ICT Volunteers (MIV)



Hence the importance of the people's support in ensuring Malaysia as a digitalised country, MIV assisted with creating awareness towards the country's migration to digital TV transmission. It was made possible through the conception of MIV with DTT and MIV with DTH projects which generated an overwhelming outreach to 1,063,154 participants. Overall, the communities' engagement with MIV in 2019 was a figure to be proud of as it peaked to as many as 2,725,026 participants.



ADVOCACY



MIV at the Malaysia Digital Roadshow, Kuala Pilah, Negeri Sembilan (November 2019)



MIV with School activity at SMK Taman Melati, Kuala Lumpur (July 2019)

MIV with School at SJK Choong Wen, Kuala Lumpur (October 2019)



The MIV Excellence Award Ceremony 2019 held at MCMC Cyberjaya (April 2019)

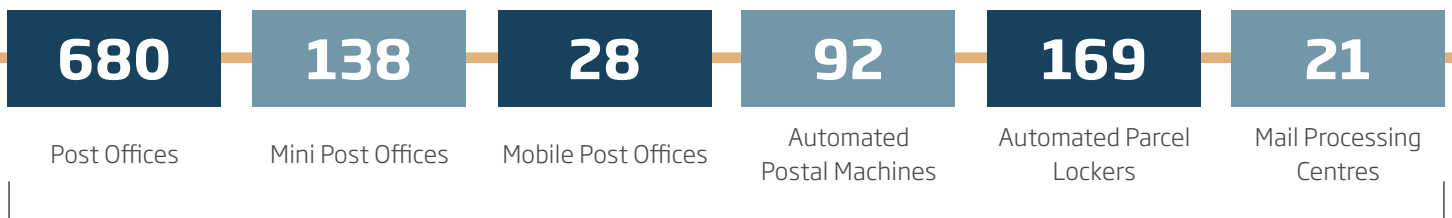
In appreciation of the contributions and accomplishments of MIV volunteers, MCMC honoured 19 winners at the Malaysia ICT Volunteer Excellence Award Ceremony which was held on 30 April 2019.

## POSTAL AND COURIER

Under the Postal Services Act 2012, MCMC's core function is to ensure that the provisions of universal postal services is executed in Malaysia. Pos Malaysia Berhad is the only company that has a licensed universal postal services provider status to perform primary postal services in Malaysia.

The fundamental postal services which are deemed compulsory for a universal service provider encompasses basic and registered domestic services, besides international mail and parcel services. This includes undertaking pick-up and delivery for five (5) days a week, with the exception for rural areas. Other requirements that are imposed include the provision of minimum 1,000 postal branches nationwide. Pos Malaysia has also taken the initiative of providing 809 express postboxes and 2,640 postboxes throughout the country.

### Postal Services Data (as at November 2019)



Source: Pos Malaysia Berhad

### Re-justification of Postal Tariff and the Reform of Universal Services

The increase in operational costs and the declining pattern in the handling of total annual mail volume since 2014 have pressured Pos Malaysia Berhad's financial standing as the universal service provider. Pos Malaysia had registered a deficit of RM110 million in 2018. Moreover, the revision made by Universal Postal Union (UPU) on the international terminal dues structure had also caused a global change in the postal industry landscape.

Thereby, Pos Malaysia had submitted an application for the proposal of postal tariff rejustification in January 2019. Such proposal was given due consideration and a few matters were improved upon by MCMC, encompassing three (3) principal issues, namely:

**A**

Re-justification of the domestic and international mail services tariff.

**B**

Reformation in the scope of universal services, in which a number of categories for postal items are no longer part of the postal services' basic scope under the regulated regime for universal services. Such service tariff may be determined by Pos Malaysia itself in tandem with customers' requirements and market forces.

**C**

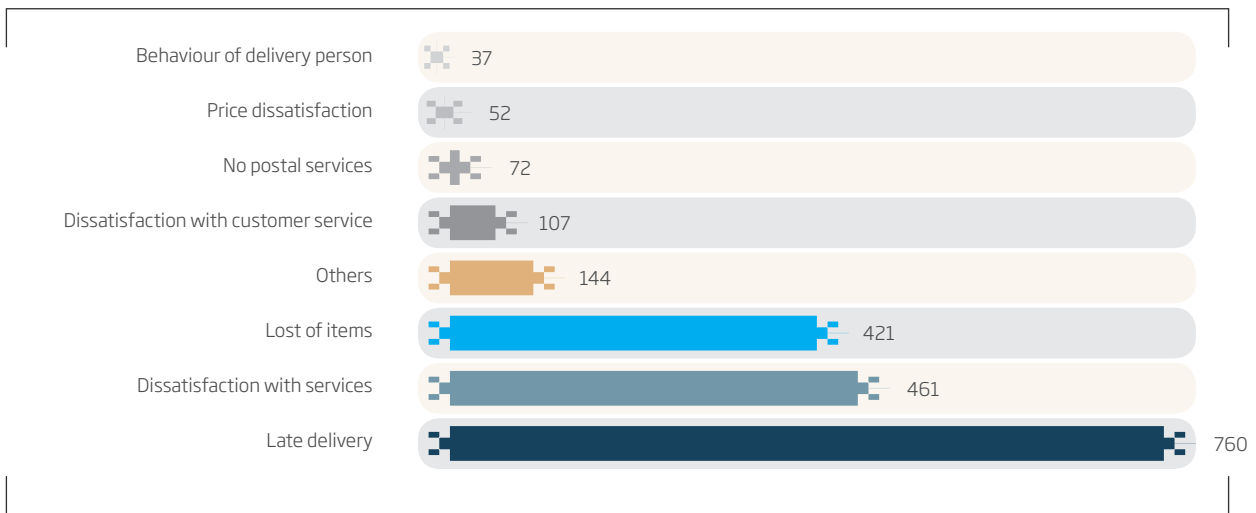
The cancellation of incidental services tariff regulation, i.e. Personal PO Box for commercial use, Locked Bag, Window Delivery Ticket, Money Order and Postal Order

**POSTAL AND COURIER**

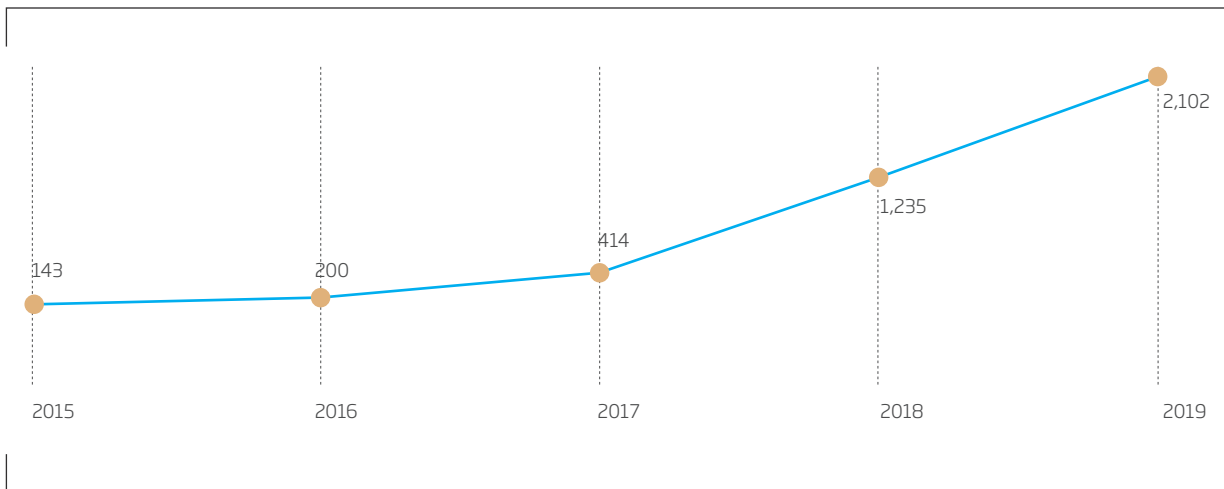
**Service Complaints**

In 2019, a total of 2,102 complaints from customers were received regarding postal and courier services. It depicted an increase of 408% in comparison to a total figure of 414 reports in 2017. The total number of grievances are expected to continue to rise parallel with the rapid growth of e-commerce, particularly during online sales. The grievances that were reported are segregated into several categories.

**Complaints Received by Categories in 2019**



**Five (5) Year Trend of Complaints for Postal and Courier Services 2015-2019**



## POSTAL AND COURIER

As the regulatory body for the postal and courier industry, MCMC is steadfast in safeguarding the interest of customers, in addition to fostering a fair, responsible and professional business practice amongst industry players.

One of the several propositions were raised are concerns with the formation of a Postal Forum under Section 49 of the Postal Services Act (PSA) 2012 as a means of empowering self-regulatory and protecting the interest of consumers in the postal and courier industry in Malaysia.

In view of this, MCMC had approved the appointment of the Association of Malaysian Express Carriers (AMEC) to discharge the functions of a Postal Forum under the PSA 2012 for a period of three (3) years, beginning from AMEC's date of registration as a Postal Forum under MCMC. The appointment will take effect in February 2020.

### Stimulating Healthy Competition and Innovation in the Industry

The Malaysian courier service market is consistently attracting new investments, be it from abroad or domestic. Yamato Transport (M) Sdn Bhd, Japan's leading courier company, made its debut in Malaysia's courier service sector in 2010 and had since compelled industry to adapt and adopt the latest innovation of cash payment upon delivery which is employed by Yamato.

The year 2019 also marked the entry of J&T Express (M) Sdn Bhd into Malaysia's courier services environment, whereby reshaping the industry's landscape as the company opened over 300 branches throughout the country and operates 365 days a year. Therein lies the challenge for other industry players in trying to emulate such business models, in order to maintain their relevance and competitiveness.



### Licensing

There had been 116 courier service licensees in 2019. License classifications were comprised of 41 companies in Class A, 47 in Class B and 28 companies in Class C. It was also in this year that Shopee Express Malaysia Sdn. Bhd. received their Class C license, which meant it had followed in the footsteps of Lazada by establishing a new wing for courier services in their operations.

The scope of services for Class A license covers the provision of domestic and international courier services, whereas Class B caters to domestic courier services throughout the country, whilst Class C delivers locally within a state. The diagram below consists of the new licenses issued in 2019.

#### List of Newly Issued Courier Services License in 2019

TYPES OF LICENSE	COMPANY
Class A	Allied-Link Express (Port Klang) Sdn Bhd
	Manjung Naluri Sdn Bhd
	May Express Logistics Sdn Bhd
Class B	Tuudi 3PL Sdn Bhd
	DGB Networks Sdn Bhd
	Xend Sdn Bhd
	World Asia Logistic (M) Sdn Bhd
Class C	Dropicks Sdn Bhd
	Sure-Reach Sdn Bhd
	Lambomove Sdn Bhd
	Shopee Express Malaysia Sdn Bhd
	Early Riser Sdn Bhd

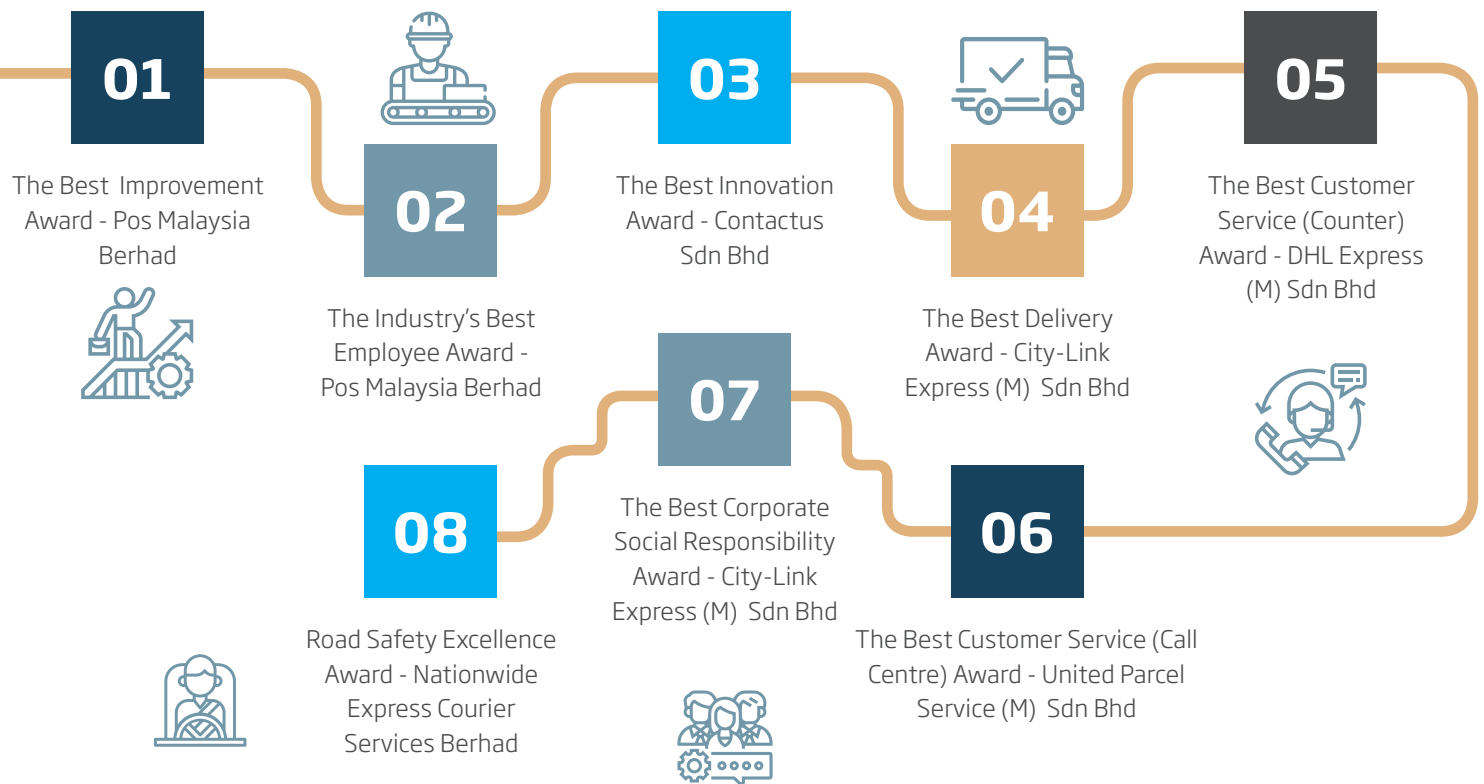
**POSTAL AND COURIER**

**E-Commerce Delivery Awards 2019**

The E-Commerce Delivery Awards 2019 once again came to light as the most awaited and prestigious event in the calendar of the courier services industry. Such an event is staged to acknowledge the excellence portrayed by individuals as well as the best performing industry player in 2019. The organisation of this 3rd annual event was hosted by MCMC, the Association of Malaysian Express Carriers (AMEC) and was fully supported by industry players.

A new category, 'The Best Improvement Award' was introduced to salute companies that had made great effort and improvement in their delivery performance as compared to the previous year. In fulfilling such criteria, Pos Malaysia Berhad was hailed as the winner of this category in 2019.

The complete record of award recipients are as follows:



The ceremony was officiated by the Secretary General, Ministry of Communications and Multimedia Malaysia (KKMM), YBhg. Dato' Suriani Dato' Ahmad who represented the Minister of KKMM, and was also graced by the presence of MCMC's Chairman and Vice President of AMEC, including 11 Chief Executive Officers from Malaysia's prominent courier companies.



Winners of the E-Commerce Awards 2019



Since its establishment, MCMC's main role is the regulation of the communications and multimedia industry based on the powers embodied in the Communications and Multimedia Act 1998 (CMA 1998), the Postal Services Act 2012, the Digital Signature Act 1997 and the Malaysian Communications and Multimedia Commission Act 1998.

From the economic perspective, MCMC regulates competition, access and licensing. Additionally, MCMC regulates the technical aspect of the industry which encompasses frequency spectrum assignment, as well as the administration of numbering and electronic addressing. MCMC is also responsible for consumer protection, social and postal regulation.

# ANCE AND TORY

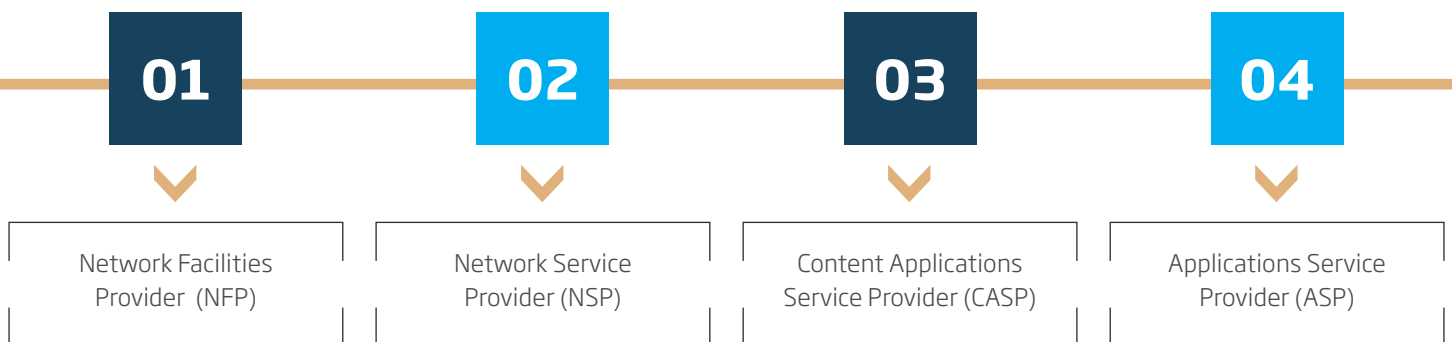
# LICENSING

MCMC is granted the authority and responsibility of issuing licences, as prescribed under the Communications and Multimedia Act 1998 (CMA 1998), Postal Services Act 2012 (PSA 2012) and the Digital Signature Act 1997 (DSA 1997).

## Licences Under the Communications and Multimedia Act 1998 (CMA 1998)

The licensing terms dictated by CMA 1998 allow licensees to conduct and manage activities relating to the communications and multimedia industry.

There are four (4) categories of licences, specifically:



Under all four (4) classifications, there are two (2) types of licences being issued, i.e. Individual Licence and Class Licence. Individual Licence demands a high-level of regulation in order to execute specific activities and are subjected to special or additional conditions. In contrast, Class Licence only requires registration and its regulatory level is much lower as a means of stimulating the industry's growth, and hence, paving the way to a much easier access to the market.

Generally, there are three (3) categories of activities for Individual Licence:

### Network Facility Provider Individual [NFP(I)] Licence

This particular licence is issued to those who own and/or provide specific network facilities, e.g. earth station, fixed links and cable, radio communications transmitters and links, satellite control station, satellite hub, space station, submarine cable landing centre as well as towers, poles, ducts and holes that are utilised alongside other network facilities. Regulations 19 of the Communications and Multimedia (Licensing) Regulations 2000, CMA 1998 further lists the types of network facilities which require this brand of licence.

### Network Service Provider Individual [NSP(I)] Licence

Services that are subjected to the Individual Licence category include bandwidth services, broadcasting distribution services, cellular mobile services, access application services, space services, switching services and also gateway services. The itemised network services which necessitate this particular licence are as indicated under Regulations 20 of the Communications and Multimedia (Licensing) Regulations 2000, CMA 1998.

### Content Applications Service Provider Individual [CASP(I)] Licence

This licence is issued to those who are able to provide content such as satellite broadcasting, subscription broadcasting, terrestrial free-to-air TV broadcasting and terrestrial radio broadcasting. Regulations 22 of the Communications and Multimedia (Licensing) Regulations 2000, CMA 1998, has stipulates a list of content applications service that entails such licence.



## LICENSING

## Licensing Activities

As at 31 December 2019, a total of 68 applications related to Individual Licence were approved by the Minister of Communications and Multimedia Malaysia, whilst 452 requests with regards to Class Licences were registered under CMA 1998.

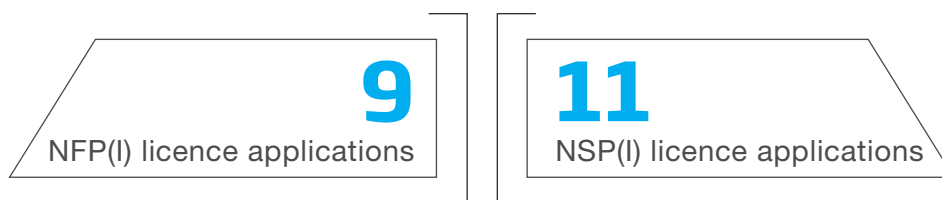
The categorical breakdown of Individual Licence applications are as stated below:

INDIVIDUAL LICENCE CATEGORY/ TYPES OF APPLICATION	TOTAL APPLICATION
New Licence	20
Licence Renewal	42
Modifications of Licence Terms	3
Transfer of Licence Ownership	3
<b>Total</b>	<b>68</b>

Types of Individual Licence application received by MCMC

### Individual Licence - New Application

As at 31 December 2019, the Minister of Communications and Multimedia Malaysia had approved 20 new licences and it comprises of:



By and large, applications for the NFP(I) and NSP(I) licences in 2019 were more oriented towards the provision of facilities and network services to support the high speed broadband and cellular services in Malaysia.

### Individual Licence - Applications for Renewal of Individual Licence

A total of 42 applications for the renewal of individual licence were approved by the Minister of Communications and Multimedia Malaysia up until 31 December 2019, and the breakdown are as follow:



### Individual Licence - Applications for Modification of Licence Terms

Ending 31 December 2019, there were three (3) applications were chosen to alter the terms of individual licences, which were approved by the Minister of Communications and Multimedia Malaysia and it involved three (3) modifications just for the NFP(I) alone.

## LICENSING

### Individual Licence - Applications for the Transfer of Licence Ownership

Two (2) licensees had transferred their Individual Licence ownership, which are as follow:



Throughout 2019, a total of 13 licensees had surrendered their Individual Licences, which are as follow:

NO.	COMPANY	TYPES OF LICENCES
1	Nafas Media Sdn Bhd	CASP
2	Enabling Asia Tech Sdn Bhd	NSP
3	Dynasynergy Sdn Bhd	NFP
4	Kiple Media Sdn Bhd	CASP
5	G-Tex Communication & Engineering Sdn Bhd	NFP
6	Stealth Broadband Sdn Bhd	NSP
7	Konsortium Infrastruktur W.P. Sdn Bhd	NSP
8	Melaka ICT Holdings Sdn Bhd	NSP
9	En Media Sdn Bhd	CASP
10	Kibaran Pelangi Sdn Bhd	NSP
11	MBJ Network Venture Sdn Bhd	NSP
12	Axiata Business Services Sdn Bhd	NSP
13	Birchcom Construction Sdn Bhd	NFP

Surrendered Individual Licence

## LICENSING

## Class Licence Registration under the Communications and Multimedia Act 1998

In 2019, as many as 452 applications were registered under the Class licensing. The categorical breakdown of the Class Licence registration are as indicated below:

TYPES OF CLASS LICENCES	TOTAL NUMBER OF LICENSEES
NFP	11
NSP	11
CASP	10
ASP	420
<b>Total</b>	<b>452</b>

*Total number of Class Licence registration by MCMC*

## Fees - Individual Licence & Class Licence

Up to 31 December 2019, the Licensing Department had collected a sum of RM112,977,630.00 in yearly fees for Individual Licence. The amount of RM1,318,000.00 for fees related to applications of Individual Licence which covers application fee, approval fee, renewal fee, etc. Also, a total of RM1,130,000.00 was recorded for Class Licence registration fee. The segregation of fee revenue with regards to Individual Licence and Class Licence are as follow:

FEE	TOTAL (RM)
Individual Licence annual fee	112,977,630.00
Individual Licence application fee	1,318,000.00
Class Licence registration fee	1,130,000.00
<b>Total</b>	<b>115,425,630.00</b>

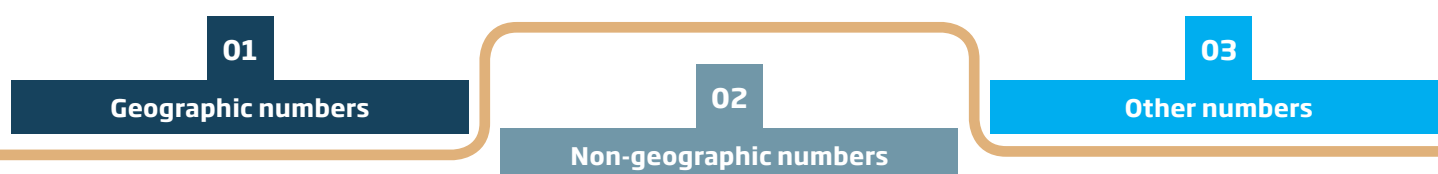
*Total Individual Licence and Class Licence fee revenue*

# NUMBERING AND ELECTRONIC ADDRESSING

Pursuant to Section 179 of the Communications and Multimedia Act 1998 (CMA 1998), MCMC is thereby authorised to regulate, plan, administer, manage and assign numbering and electronic addressing for network services and application services.

## Numbering Assignment

The assignment of numbering is carried out according to the categories for network services as well as application services in Malaysia, which are as indicated below:



In the year 2019, the assignment of new numbering had reached 737,027 whilst 2,500,000 mobile numbers which were assigned had been surrendered. Thus, the overall total of numbering assignment in 2019 was recorded at 148,173,407.

Details of the assignment are as displayed in the table below:

CATEGORY	TYPE OF NUMBER		AVAILABLE ASSIGNMENT (DATA UNTIL 1 JAN 2019)	NEW ASSIGNMENT	SURRENDERED
Geographic Number	Public Switched Telephone Network (PSTN)		36,323,000	137,000	
Non-geographic Number	Short Numbers	CKSC	9	0	-
		CISC	15	4	-
		ISC	206	0	-
		CSC	3	0	-
	Special Service Numbers (SSN)	1-300	100,000	0	-
		1-800	130,000	0	-
		1-600	100	0	-
		1-700	20,000	0	-
Mobile Numbers		113,360,000	600,000	2,500,000	
Other numbers	International Mobile Subscriber Identity (IMSI)	MNC	97	0	-
		Signaling Point Codes	ISPC	41	19
	NSPC		2,902	4	-
	Routing Numbers		7	0	-
<b>TOTAL</b>			<b>149,936,380</b>	<b>737,027</b>	<b>2,500,000</b>
<b>OVERALL TOTAL</b>			<b>148,173,407</b>		

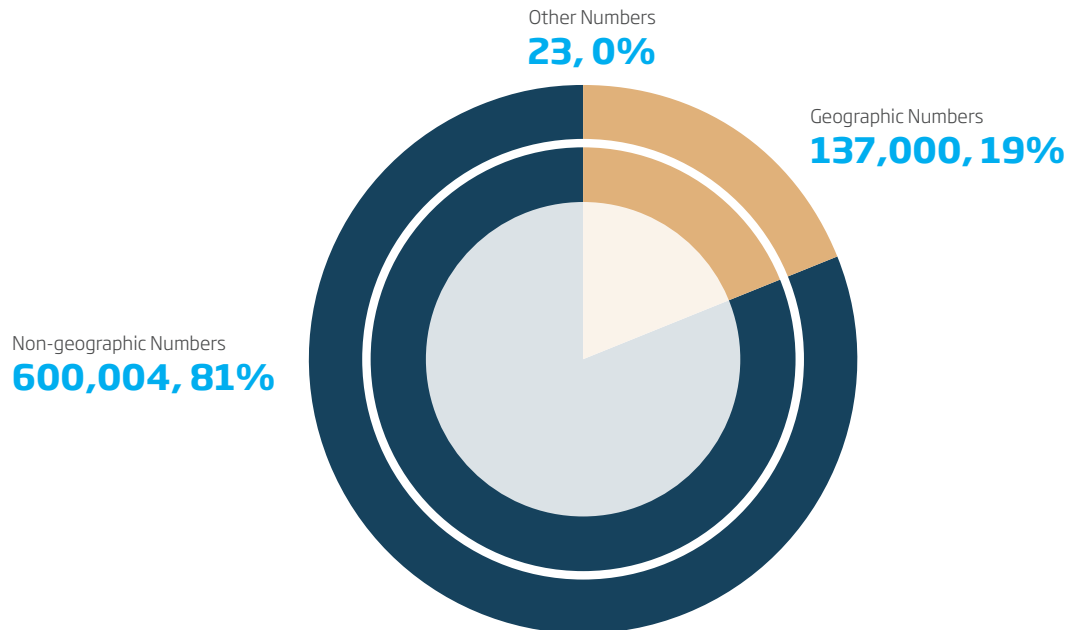
**LEGEND**

- CKSC Commonly Known Short Code
- CISC Common Inter-carrier Short Code
- ISC Independent Short Code
- CSC Carrier Selection Code
- 1-300 Toll Free Service Numbers
- 1-800 Freephone Service Numbers
- 1-600 Premium Service Numbers
- 1-700 Call Forwarding Service Numbers
- MNC Mobile Network Code
- ISPC International Signalling Point Codes
- NSPC National Signalling Point Codes

Source: NUMSYS, January 2020

## NUMBERING AND ELECTRONIC ADDRESSING

The diagram below depicts the total assignment of new numbering according to its category in 2019:



*Total Assignment of New Numbering for the year 2019*

### Total Fee for Numbering Assignment

Beginning from January 2017, MCMC had imposed a fee to assignment holders predicated on the Communications and Multimedia (Numbering) Regulations 2016.

There are two (2) types of fee that are imposed on numbering assignment holders, i.e:



A total amount of RM18,360,150.00 was collected as fees for numbering assignment in 2019.

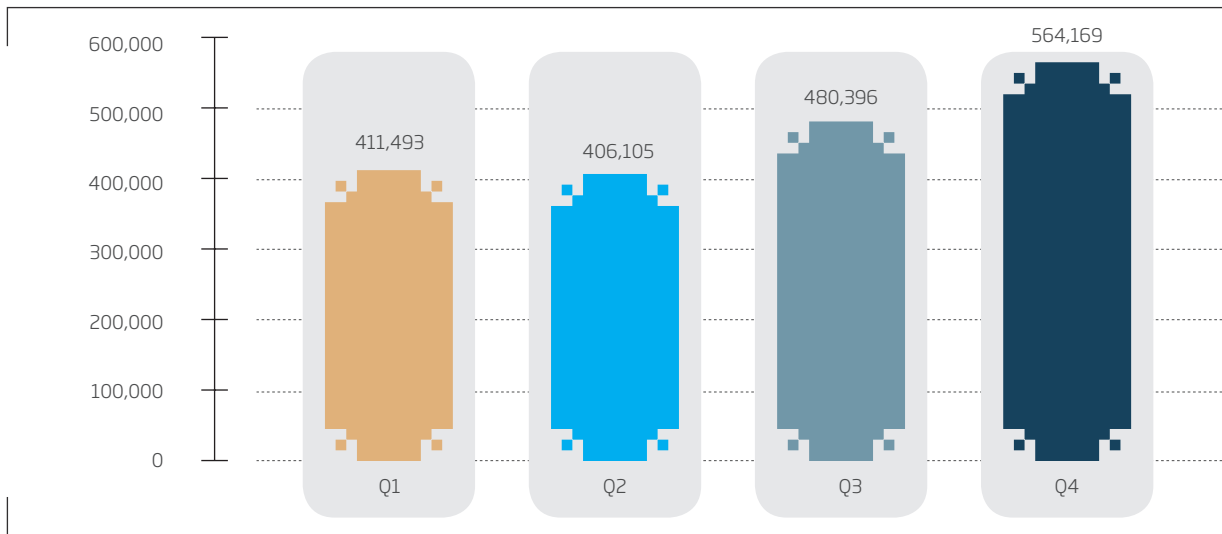
## NUMBERING AND ELECTRONIC ADDRESSING

### Mobile Number Portability (MNP)

Following the launch of the MNP services in 2008, its advantages have been flowing unremittingly to mobile service users in Malaysia, whereby comparing the differences of call rates and plans have allowed them the freedom of changing service providers without having to go through the difficulty of changing their mobile numbers.

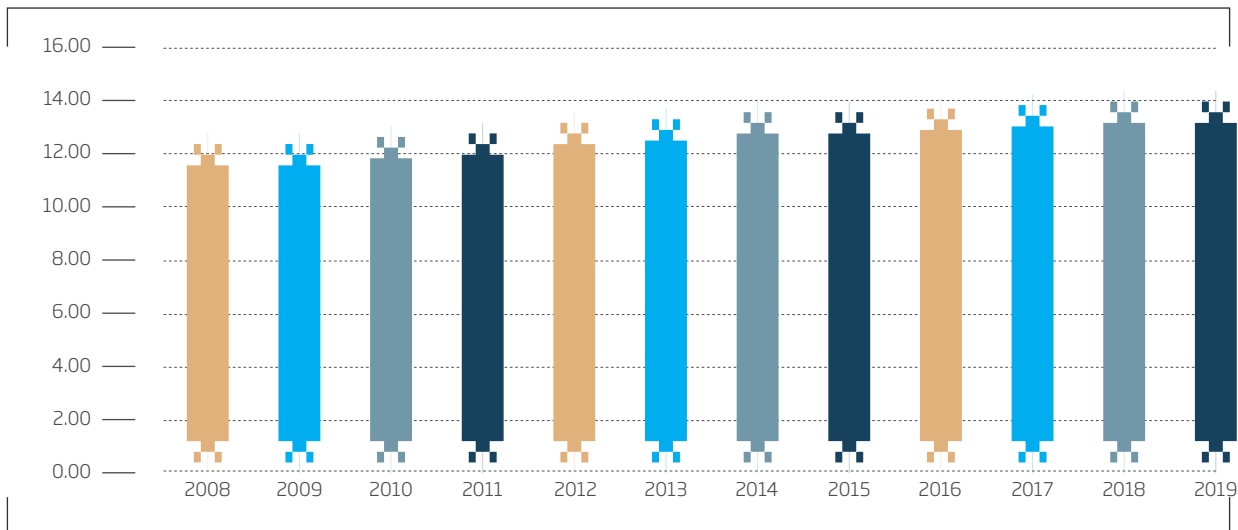
MNP levels the playing field, thus creates competition amongst service providers whilst elevating service quality which ultimately benefits the users.

In wrapping up 2019, a total of 1,862,163 numbers were switched via MNP. The graph below renders the MNP switching activities for every quarter throughout 2019.



Total Mobile Number Portability for the year 2019

The following graph delineates the accumulated MNP transactions from 2008 until 2019.



Total Mobile Number Portability switching from 2008 until 2019

## NUMBERING AND ELECTRONIC ADDRESSING

### Internet Protocol Version 6 (IPv6) Compliance Audit

The IPv6 compliance audit and service verification measures on 22 NSP(I) licensees which provide fixed broadband, wireless broadband and data centre services conducted since 2015 until 2019. Such procedure ascertains that the 22 licensees are in conformity with the Commission Direction No. 2/2015 regarding the provision of IPv6 services to customers in Malaysia.

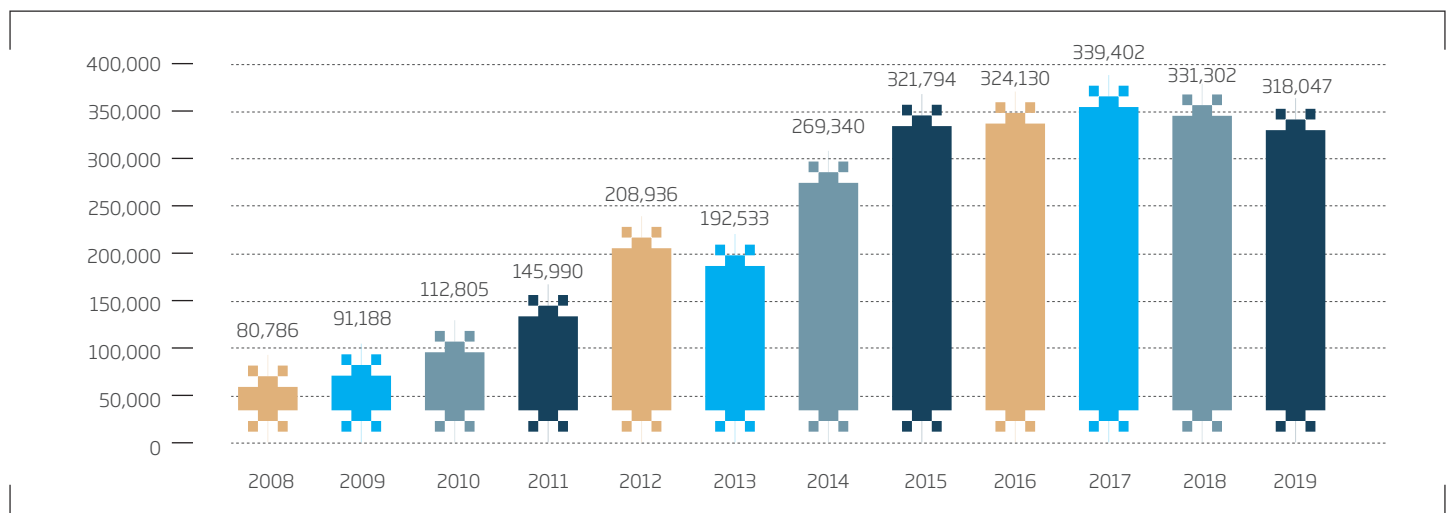
The table below indicates the audit activities that were performed in 2019:

NO	REGION	SERVICE			
		Wired	Wireless	Data Centre	Total
1	Central	8	6	6	20
2	Northern	3	6	1	10
3	Sarawak	3	6	-	9
4	Sabah	5	6	-	11
5	Eastern	3	6	-	9
6	Southern	3	6	1	10
<b>Total Audit</b>					<b>69</b>

### Electronic Addressing

Pursuant to the powers vested by virtue of Section 181(1), MCMC had appointed MYNIC Berhad (MYNIC) as the administrator to manage and maintain an integrated electronic addressing database in Malaysia, comprising eight (8) categories of domain names. These domain names are characterised by the end name of 'my' [including Internationalised Domain Name (IDN), .com.my, .net.my, .org.my, .gov.my, edu.my, .mil.my and .name.my].

As at 31 December 2019, as many as 318,047 domain names were registered. The graph below indicates the number of registered domain names from the year 2008 until 2019 which renders a declining trend for the past few years.



Total Registered Domain Names from 2008 until 2019

## COMPETITION AND ACCESS

As prescribed under the Communications and Multimedia Act 1998 (CMA 1998), the provisions for General Competition Practices and Rate Regulation are stipulated in Part VI, Chapter 2 and Part VII Chapter 4.

It is the duty of MCMC to review and develop competition policies and regulatory instruments, including investigating and resolving complaints regarding anti-competitive conduct to ensure fair competition in the communications market. Apart from that, MCMC is also tasked with monitoring of retail rates imposed on communications services, including regulating retail rates, if required.

### Guidelines on Mergers and Acquisitions and Guidelines on Authorisation of Conduct

In May 2019, MCMC had issued two (2) guidelines, which are the Guidelines on Mergers and Acquisitions (M&A Guidelines) as well as the Guidelines on Authorisation of Conduct (AoC Guidelines). Both guidelines are intended to provide clarity and transparency to the industry on the approaches adopted by MCMC in assessing mergers and acquisition as well as authorisation of conduct in the communications market.

In essence, the M&A Guidelines underscores the procedures for the notification of mergers and acquisitions, scope of M&A, the process that will be adopted for assessment of mergers and acquisitions, and the types of decisions that are likely to be made. An indicative time frame for each stage is also provided. Likewise, the AoC Guidelines establishes the procedures to be adopted by MCMC, an analytical framework and a tentative timeline to complete the assessment.

Albeit the fact that mergers and acquisitions could elevate efficiency, the competitive dynamics in the marketplace nonetheless has to be sustained, to ensure long term benefits of end users are protected. On that account, the criteria that are applied in assessing M&A is substantial in lessening the competition in the communications market. On the other hand, in evaluating authorisation of conduct, the assessment criteria is a national interest. It is guided by national policy objectives as set out in subsection 3(2) of the CMA 1998, which constitutes the basis in determining whether such conduct should be authorised.

### Complaints on Anti-Competitive Conduct

The Guidelines on Substantial Lessening of Competition in a Communications Market issued by MCMC on 24 September 2014 had identified a broad range of anti-competitive conducts and the methods to be adopted by MCMC in investigating such conducts. In the course of 2019, MCMC had received 22 competition complaints, a majority of which were regarding the issues of exclusivity and high retail prices. In handling the issue of exclusivity, MCMC had worked closely with the Malaysia Competition Commission (MyCC) to address this matter holistically.

### Monitoring Retail Pricing

MCMC oversees the retail pricing offered by licensees to ensure such rate is in accordance with the pricing principles specified under Section 198 of the CMA 1998. Moreover, monitoring retail pricing is also pertinent to gauge the level of competitiveness in the marketplace whilst identifying pricing practices that can be construed to be anti-competitive. To that end, 2019 saw MCMC monitoring a wide range of retail packages offered by 58 licensees in the communications market.

There were several new service providers who had entered the market in 2019 to provide fixed broadband services. DIGI Telecommunications Sdn Bhd had entered the market in April 2019, supplying high speed fixed broadband of between 50 Mbps to 1 Gbps. Meanwhile, Celcom began to expand its coverage from Sabah to Peninsular Malaysia in August 2019. Beyond that, service providers such as Maxis, TM and Celcom also introduced new packages with speeds ranging from 300 Mbps to 1 Gbps.

Demands for fixed broadband services continued on an upward trajectory. Between January 2019 until December 2019, the number of subscribers for high speed fixed broadband services rose 17%, of which 75% of these subscriptions were on speeds of 100 Mbps and above. This apparently had a bearing on the Global Speedtest Index as Malaysia's average download speed escalated by 23% to 78.03 Mbps in December 2019, in comparison to January 2019.



## COMPETITION AND ACCESS

Following a price reduction for high speed fixed broadband services, in September 2019, Streamyx residential package customers began enjoying price reductions between 37% to 57%. Telekom Malaysia Bhd (TM) began offering Streamyx services at a speed of up to 8 Mbps for the price of RM89 per month, while existing customers can enjoy this package at RM69 per month.

At the same time, Streamyx's business customers were not left out as they too were given price reduction between 7% to 13% for a speed ranging between 2 Mbps to 8 Mbps. On another note,

TM had released a wireless broadband product known as Unifi Air as an alternative for its Streamyx customers. This particular package renders speed capability of up to 20 Mbps for a monthly rate of RM79 per month.

At the close of 2019, Malaysia was offering the lowest rate for a 30 Mbps package in the ASEAN region, whereas for 100 Mbps and 300 Mbps packages, Malaysia was ranked second after Thailand and for the 500 Mbps, Malaysia came in second after Singapore.

### Access

In terms of access, MCMC vivaciously puts into effect on its monitoring and regulatory obligations which involved the following instruments:

01

Commission Determination on Access List, Determination No. 2 of 2015 (Access List)

02

Commission Determination on the Mandatory Standard on Access, Determination No. 3 of 2016 (Mandatory Standard on Access)

03

Commission Determination on the Mandatory Standard on Access Pricing, Determination No. 1 of 2017 (Mandatory Standard on Access Pricing)

In order to implement the access framework, one of the action taken was holding briefing sessions for new individual licensees with the aim of enhancing their knowledge of their roles and responsibilities. As 2019 came to an end, MCMC managed to hold eight (8) briefing sessions for 43 new licensees.

As subjected by Section 150 of the CMA 1998, MCMC had reviewed more than 51 access agreements for registration. Similarly, MCMC had also examined more than 21 reference access offers which were published by access providers on their respective websites to ensure compliance to the instruments that have been established.

One of MCMC's crucial function is resolving complaints and disputes related to access. In 2019, MCMC had decided one (1) dispute and the decision was registered under Section 88 of the CMA 1998 in December 2019.

MCMC had also received eight (8) complaints regarding facilities and services under the Access List and/or compliance to the Mandatory Standard on Access and Mandatory Standard on Access Pricing. MCMC plays its part in facilitating negotiations between licensees to ensure healthy competition in the communications market and therewith, ensuring consumers' long term benefits.

# NETWORK SECURITY

In line with one of the National Policy Objectives enshrined in the Communications and Multimedia Act 1998 (CMA 1998) which is to ensure information security and network reliability and integrity, MCMC plays a vital role in ensuring the objective is met through the implementation of planned activities that focus on the security and reliability aspects of the network.

## Development of Information and Network Security Standards

MCMC with the cooperation of the Malaysian Technical Standards Forum Bhd (MTSFB) had established the Information and Network Security Working Group (INSWG) which is responsible in assessing and reviewing current requirements, and develop technical codes and guidelines pertaining to information and network security and service continuity, as guide and reference for the communications and multimedia sector.

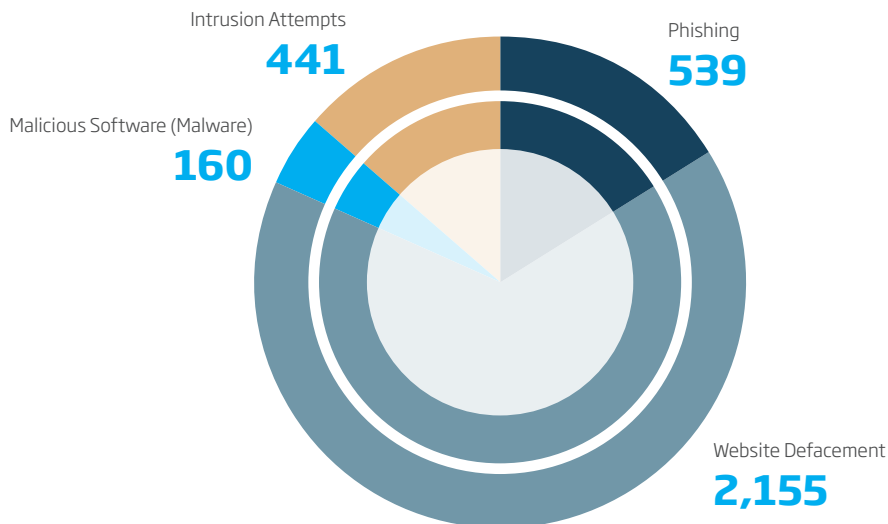
In 2019, two (2) new technical codes were developed, and one (1) existing technical code was revised. All three (3) technical codes were registered under Section 185 of the CMA 1998.

<p><b>01</b></p> <p>Technical Code: Information and Network Security (INS) - Requirements (First Revision)</p>	<p><b>02</b></p> <p>Technical Code: INS - Cyber Insurance Acquisition</p>	<p><b>03</b></p> <p>Technical Code: INS - Monitoring and Measurement of Security Control Objectives</p>
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## Incident Handling

MCMC, through the Network Security Centre (NSC), handled a total of 3,295 network security incidents throughout 2019.

The category with the highest number of incidents handled was Website Defacement with 2,155 incidents, followed by Phishing with 539 incidents. The breakdown of the incidents is as shown in the chart below:



## NETWORK SECURITY

### Security Advisory

MCMC through the Network Security Centre (NSC) also undertakes measures to promote security vigilance among service providers under the communications and multimedia sector through its security advisory initiative.

Throughout 2019, a total of 15 security advisories were issued for the following matters, incidents and topics:

- |  |  |
|--|--|
| 1. DNS Hijacking   | 9. Zoom Webcam Multiple Vulnerabilities                        |
| 2. DNS Flag Day  | 10. Cyber Attack Campaign August 2019                          |
| 3. Fake Store Website  | 11. Joker Subscription Bot on Google Play                      |
| 4. ColdFusion Zero Day Flaw                                  | 12. Phishing URL Using Legitimate Domain Redirection           |
| 5. WordPress Plugin Multiple Vulnerabilities                 | 13. PHP Zero Day Remote Code Execution Vulnerability           |
| 6. WhatsApp Buffer Overflow Vulnerabilities                  | 14. Improper Disabling of XLM by Microsoft Office for Mac      |
| 7. Bluekeep Remote Desktop Protocol Vulnerabilities          | 15. Threat Group Gallium Targeting Telecommunication Providers |
| 8. Operation Soft Cell Targeting Telecommunication Providers |  |

### Cyber Drill

Cyber Drill is a simulated exercise in handling and countering cyber security incidents which is implemented with the participation of various stakeholders and key agencies at both the domestic and international level.

In 2019, MCMC participated in two (2) cyber drills as follows:

- 1. ASEAN Computer Emergency Response Team (CERT) Incident Drill (ACID) 2019**
- 2. International Telecommunication Union (ITU) Cyber Drill for Asia-Pacific and Commonwealth of Independent States (CIS) Region 2019**

MCMC represented Malaysia in the 14th ACID cyber drill which was held on 4 September 2019. ACID cyber drill is an annual event organised to test incident handling procedures, and strengthen the cooperation among CERT groups within ASEAN member states and key dialog partners. The theme for 2019 was "Combat Evolving Cyber Threats with Good Cyber Hygiene" where participants were required to address simulated incidents involving the breach of sensitive information.

MCMC represented Malaysia in the ITU cyber drill held from 23 to 25 September 2019 in Kuala Lumpur. During the drill, several simulations as well as incident and threat coordination processes were relayed by ITU experts to the participants via the Cyber Range platform provided. The drill allowed participants to gain deeper insights into the tactics used in cyber attacks, and the procedures and measures in handling such attacks.



## NETWORK SECURITY

### Security Assessment

MCMC also performed several series of security assessments on Malaysia's communications and multimedia industry players, with emphasis on the management and protection of information as well as the protection of physical infrastructure installations.

**01**

#### **Industry Assessment (Series 2, 2018/2019)**

Assessment performed to evaluate the implementation of information security management system among seven (7) major communications service providers in Malaysia. The outcome of the assessment showed that the respective service providers had taken the necessary steps in protecting customers' information and data.

**02**

#### **Industry Assessment (Series 3, 2018/2019)**

Assessment performed to evaluate the implementation of Information Security Management System (ISMS), and was carried out through a survey on 103 licensees under the CMA 1998. The assessment identified further rooms for improvements, particularly in the area of information security management.

**03**

#### **Assessment on Critical Installations, Protected Areas and Protected Places**

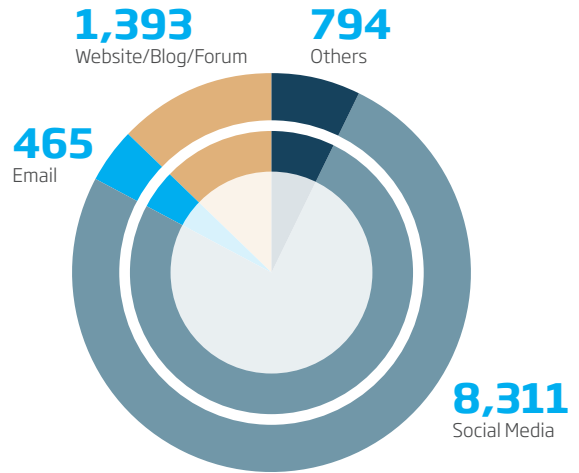
MCMC continues its close cooperation with the Chief Government Security Office (CGSO) under the Prime Minister's Department of Malaysia, via the Critical Installations Inspectorate (TNSP) and the Security Assessment Sub-Committee (JKPK). Physical and information security assessments were conducted on infrastructure installations that are important and critical to the nation, with the focus on telecommunications and broadcasting installations. The assessments were undertaken to ensure the level of security readiness continues to be in good order. A total of five (5) assessments were performed on critical installations under the communications and multimedia sector, and in general, the level of security was found to be satisfactory.

**NETWORK SECURITY**

**Regulating New Media**

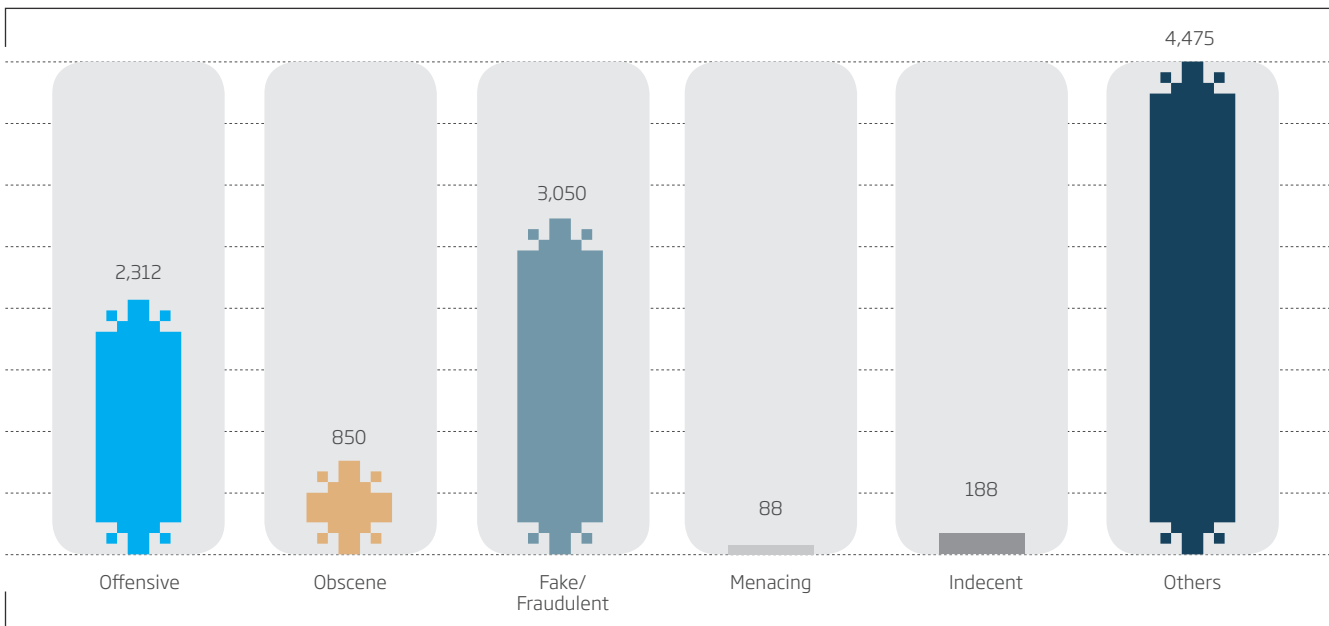
The evolvement of current technologies and the emergence of social media networks has placed more challenges on MCMC in regulating content and curbing new media abuse.

In 2019, MCMC gathered a total of 10,963 complaints from the public regarding abuse of new media, including social media. The statistics of complaints received, according to the types of platforms are as indicated in the chart on the right:



Below are the breakdown of complaints based on the category of abuse and offences in 2019.

**Statistics on Complaints According to the Types of Abuse/Offences for 2019**



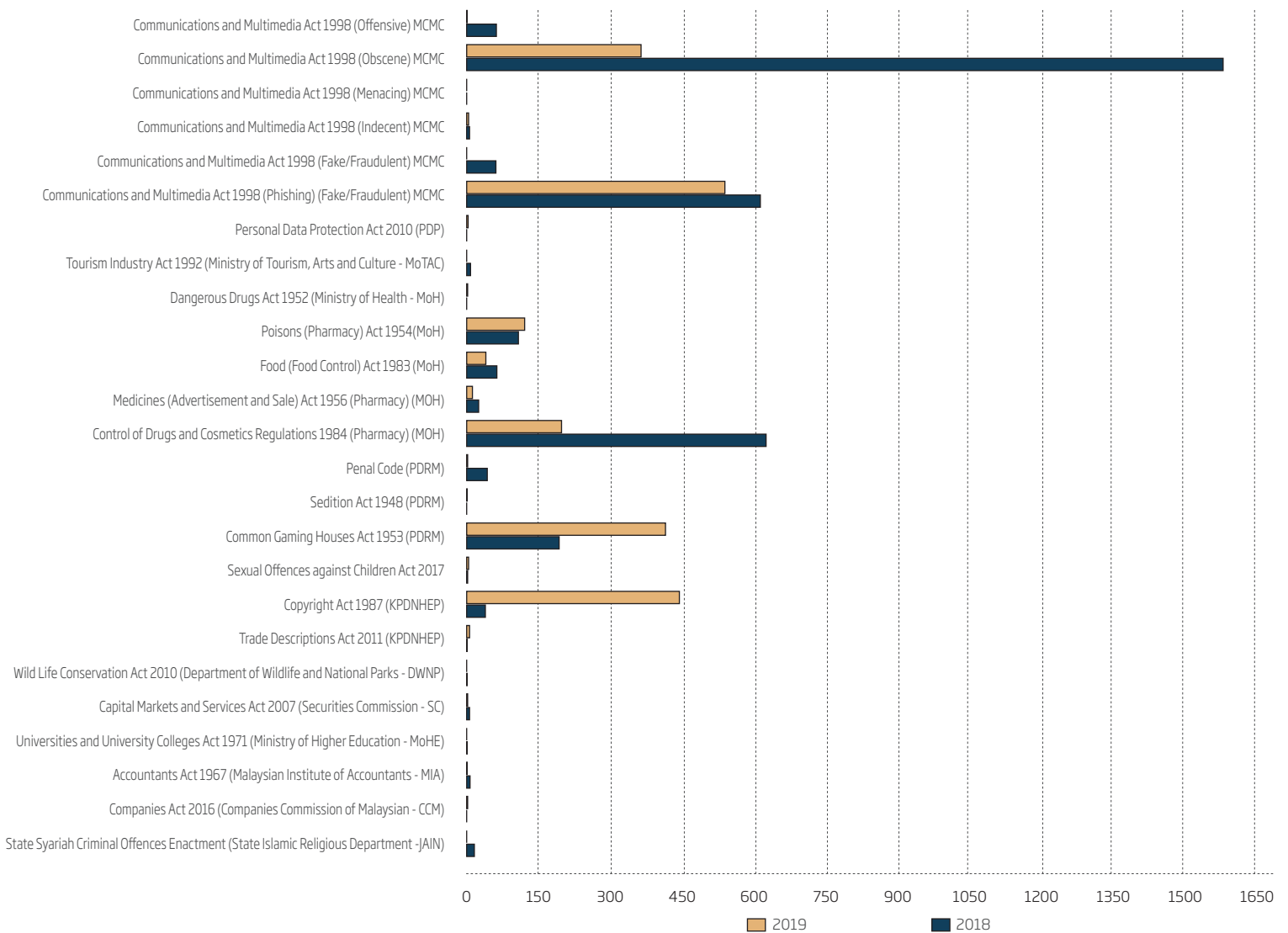
## NETWORK SECURITY

The highest number of complaints received with a total amount of 4,475 involved new media abuse which had offensive elements under other form of acts, such as hacking (Royal Malaysia Police), fraud (Royal Malaysia Police), religious deviation (State Islamic Religious Department), copyright infringement (Ministry of Domestic Trade and Consumer Affairs) and others. In handling these issues, MCMC had joined forces with the respective enforcement agencies whilst providing expertise in accordance with the requirements.

Blocking websites which violate the country's provision of written law is one of the measures taken by MCMC in protecting consumers in Malaysia.

Displayed below are the statistics on website blocking measures from 2018 until 2019, which are categorised according to applicable provisions of the written law.

### Statistics on Website Blocking Measures (2018 - 2019)



In 2019, blocking of fake/fraudulent (phishing) websites recorded the highest number of blockades with a total of 539 websites, followed by obscene websites which saw 364 of such sites being blocked.

**NETWORK SECURITY**

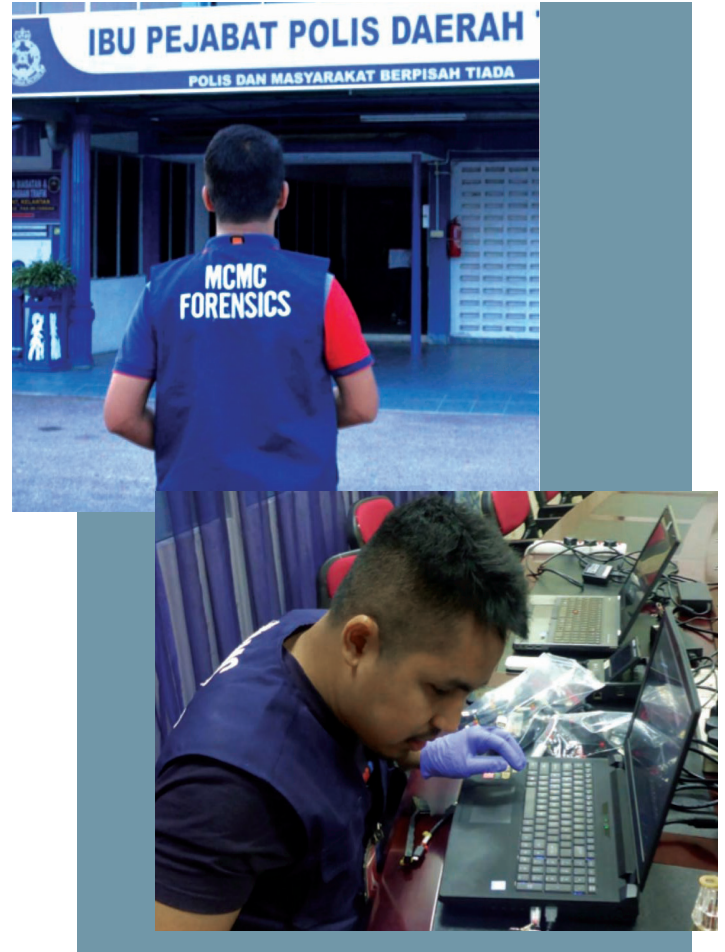
**Digital Forensic**

Expertise in digital forensic places MCMC as a prominent regulator in delivering professional and neutral service for digital forensic analysis. This is achieved by adopting state-of-the-art methods and harnessing sophisticated equipment, in addition to it being performed by qualified specialist.

Work operating system administered under the 'MS ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories' has added value in terms of integrity and professionalism. Armed with such credentials, MCMC offers specialised services in forensic analysis, field technical assistance, data preservation, data conservation and consulting services relating to electronic evidence.

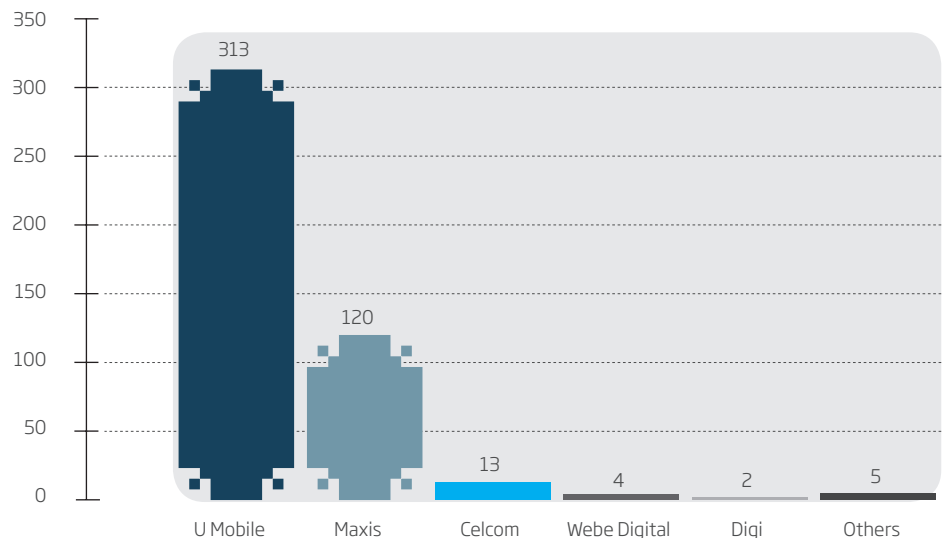
In 2019, a total of 433 cases had reached MCMC's digital forensic laboratory, encompassing cases that were under MCMC's jurisdiction, as well as cases from external enforcement agencies. Aspects of digital evidence which solicited MCMC's assistance included the case of leaked government confidential information and national security, abuse of service network, abuse of social media, sedition cases via social media, child sexual crime and dissemination of subversive ideologies.

The total number of cases received in 2019 according to categories comprised of forensic analysis, 224 cases (52%); field technical assistance, 65 cases (15%); data protection, 137 cases (32%); and data conservation, seven (7) cases (1%).



**Quality Monitoring**

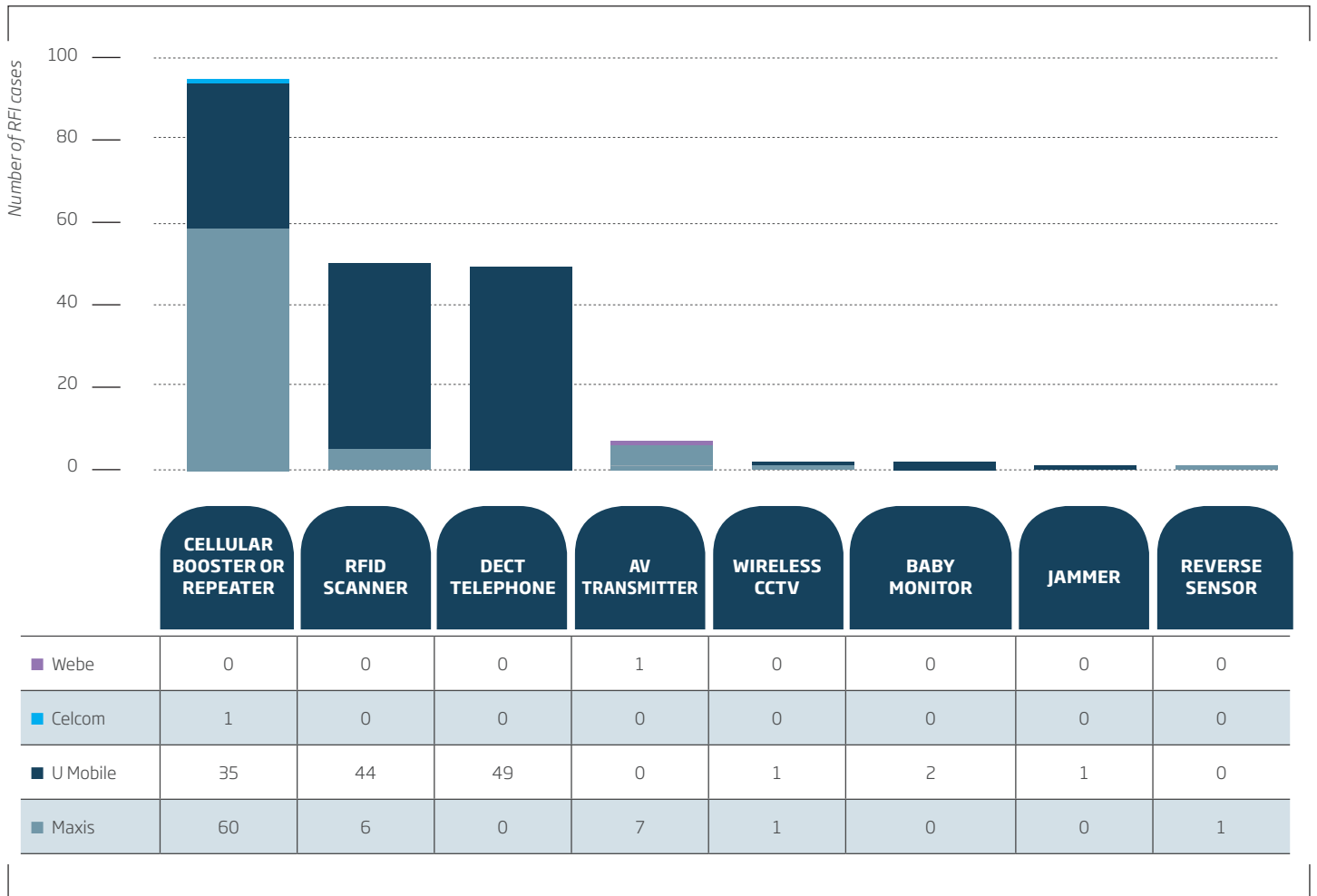
In 2019, a total of 467 radio frequency interference (RFI) cases had been resolved. Going by service classification, the highest number of resolved RFI cases remained under the Mobile Services category with 457 cases or 97.8%.



The number of RFI cases solved according to Licensees in 2019

## NETWORK SECURITY

U Mobile Sdn Bhd registered a skyrocketing increase from 113 cases in 2018 to 313 cases in 2019 due to the aggressive launch of new base stations within the 900 MHz frequency band throughout Malaysia and non-standardised equipment usage by the general public. The graph below summarises the number of RFI cases which involved non-standard equipment such as Cellular Booster or Repeater (CBR), RFID scanners and DECT telephones.



The number of RFI cases involving non-standard equipment in 2019

Digital Enhanced Cordless Technology (DECT) is a wireless telephone that is connected to a fixed line telephone system. It consists of a charger base with one (1) or two (2) telephone receiver that communicates wirelessly via radio spectrum. MCMC allocates radio spectrum of between 1885 MHz and 1990 MHz for DECTs. In spite of that, the act of bringing in non-standardised DECT telephones had caused RFI cases involving DECT phone to increase by 33 cases in comparison with 16 cases in 2018, and it was the highest increase among other non-standardised equipment. This off-grade DECT telephones operate within the same frequency range with mobile phone uplink transmission, thus causing interference to the nearest base station in receiving mobile phone signals.



NETWORK SECURITY



*A model of a non-standard DECT which causes interference to base stations*



*Activity of RF scanning*



## ENFORCEMENT

MCMC takes stern actions by conducting investigations, prosecuting in court and issuing compounds to individuals and entities that commit offences under the provisions of the law relating to the communications and multimedia industry in Malaysia.

MCMC also bears the responsibility of ensuring all enforcement operations are carried out effectively and efficiently pursuant to the provisions of the law under the Communications and Multimedia Act 1998 (CMA 1998), Digital Signature Act 1997 (DSA 1997), Postal Services Act 2012 (PSA 2012) and Strategic Trade Act 2010 (STA 2010), in addition to any subsidiary legislation made under such Acts.

### Investigation

Investigation actions are conducted on all forms of offences committed under MCMC's jurisdiction. The number of cases investigated by the Enforcement Division in 2019 came to a total of 651 cases, which demonstrated a sharp hike of about 130% in contrast to 2018 (283 cases). The following are the case categories investigated by the Enforcement Division in 2019:

CATEGORY	NO. OF CASES
Social Regulation	158
Technical Regulation	72
Economic Regulation	118
Consumer Protection	303
<b>Total</b>	<b>651</b>

### Prosecutions

A total of 75 charges were successfully prosecuted in court and out of that total charges, about 91% involved were offences under the technical regulation. The court had sentenced a fine amounting to RM487,250.00 of all charges. The number of court prosecutions had also rose as compared to 2018 with 28 charges and the overall total penalty came to RM159,500.00. Below are the total number of charges and the amount of penalty according to the category of offences:

CATEGORY	NO. OF CHARGES	FINE (RM)
Social Regulation	7	40,250
Technical Regulation	68	447,000
Economic Regulation	-	-
Consumer Protection	-	-
<b>Total</b>	<b>75</b>	<b>487,250</b>

## ENFORCEMENT

## Compound Offer

The number of compound offers issued in 2019 came to a total of 218 with the overall value amounting to RM7,999,000.00. This amount recorded an enormous escalation of 114% against the figure registered in 2018 which is paralleled with the surging number of cases investigated in 2019. Indicated below are the breakdown of offences and the value of compounds offered in 2019:

CATEGORY OF OFFENCE	NO. OF COMPOUND OFFERS	COMPOUND OFFER (RM)
Social Regulation	3	8,000.00
SMS	2	5,000.00
WhatsApp	1	3,000.00
Technical Regulation	44	1,471,000.00
Uncertified communications equipment	21	269,000.00
Damage to network facilities	22	1,200,000.00
Owning non-standard equipment	1	2,000.00
Economic Regulation	67	3,080,000.00
Offence due to submission of false or misleading statements	1	10,000.00
Obligation to submit statement on return of net revenue (RONR) from services	7	70,000.00
Licensing of network facility, network services and application services	1	100,000.00
False registration	58	2,900,000.00
Consumer protection	104	3,440,000.00
Failure to deal in a reasonable and adequate manner	1	10,000.00
Non-compliance with Numbering Regulations: Mobile Number Portability (MNP)	42	1,590,000.00
Non-compliance with Mandatory Standards: Public Cellular Service	7	250,000.00
Non-compliance with Mandatory Standards: Wired Broadband Access Service	13	650,000.00
Non-compliance with Mandatory Standards: Wired Mobile Virtual Network	1	10,000.00
Non-compliance with Mandatory Standards: Wireless Broadband Access Service	6	60,000.00
MS Short Code	1	30,000.00
Competition	1	10,000.00
Non-compliance with Consumer Code of Practice for the Communications and Multimedia Industry in Malaysia	32	830,000.00
<b>Total</b>	<b>218</b>	<b>7,999,000.00</b>

## MONITORING AND COMPLIANCE (BROADCASTING)

The Monitoring and Compliance (Broadcasting) Department is tasked with the role of elevating the level of compliance amongst Individual Content Applications Service Provider (CASP-I) licensees in order to ensure contents that are being aired would reflect the culture, identity and norms of society, in line with the CMA 1998 and Content Code.

### Managing Complaints on Content

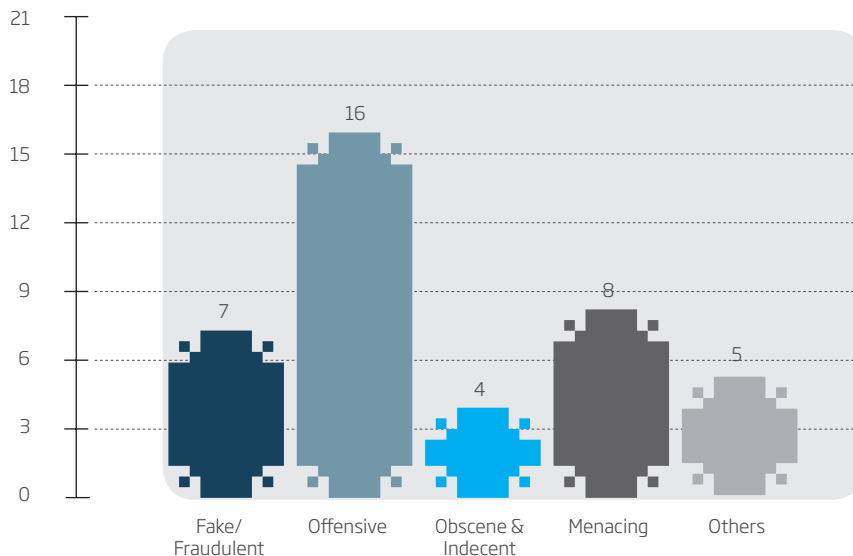
2019 brought with it a total of 40 complaints which were received and investigated by MCMC regarding contents that were aired over radio and television. Out of that total amount, 19 complaints were made concerning television subscriptions, 12 were about radio and nine (9) were directed towards free-to-air television (FTA TV).

**THE TREND ON COMPLAINTS RECEIVED ACCORDING TO PLATFORMS**

Platform	2018	2019
	<b>No. of Complaints</b>	
Free-to-air Television	15	9
Subscription Television	5	19
Radio	6	12
<b>Total No. of Complaints</b>	<b>26</b>	<b>40</b>

Based on the stated total number of cases in 2019, 16 of those are categorised as offensive, eight (8) cases are labeled as menacing, seven (7) cases fall under the fake/fraudulent category, four (4) cases were designated as indecent and obscene while five (5) were placed under others.

### Complaints According to Category of Content



## MONITORING AND COMPLIANCE (BROADCASTING)

Overall, there was a 54% leap in the rate of complaints received for contents which were aired, specifically, 40 complaints in 2019 as opposed to 26 in 2018.

### Public Service Announcements (PSA)

Special Licence Conditions for CASP-I Licensees stipulate that private radio and television stations are required to broadcast Public Service Announcements (PSA) be it for the government or on account of public or national interest. The duration should be at least two (2) minutes for every hour of broadcast. Throughout 2019, as many as 193 PSAs were obtained through KKMM for distribution to private radio and television stations, in which MCMC became the intermediary between KKMM and CASP-I licensees.

### Compliance Visit

In keeping with the policy of advocating compliance in the broadcasting industry by means of self-regulation, MCMC had conducted 20 visit sessions to private radio and television stations which involved 30 CASP-I licensees, beginning from July 2019 until September 2019. Such visits were intended to gather information and obtain feedbacks on PSAs, compliance reporting system, as well as live or delayed telecast application system (e-LDTA), besides explicating on system usage procedure in order to address existing problems regarding PSA and e-LDTA system.



Visit to a television station



Discussion on content compliance with licensees



# MONITORING AND COMPLIANCE (TELECOMMUNICATIONS)

## Guidelines on Prepaid Registration

Pursuant to the Ministerial Direction on the Registration of Subscribers of Prepaid Public Cellular Services, Direction No. 1 of 2006, dated 20 February 2006, MCMC had been directed to undertake the necessary steps in ascertaining all licensees who provide prepaid services to register their subscribers. The Conditions of Application Service Provider Class Licence stipulated the need to register subscribers of public cellular services. Guidelines on Registration of End-Users of Prepaid Public Cellular Services (Prepaid Guidelines) was issued to regulate the execution of registration of Subscribers of Prepaid Services.

Backed by continuous monitoring on the implementation of prepaid registration, MCMC had made improvements to the Prepaid Guidelines by eliminating manual registration. Under the Guidelines on Prepaid which came into effect on 1 January 2018, the registration of prepaid services necessitates the use of a secure automated platform such as the Optical Character Recognition (OCR) application, with the aim of deterring registration fraud which uses false identity.

## Prepaid Audit Activity

2019 proceeded with MCMC performing periodical prepaid audit as a means of ascertaining adherence level in prepaid registration procedures by Service Providers (SP) and agents (Dealers) in fulfilling the Prepaid Guidelines. Any violation of the Prepaid Guidelines is an offence as prescribed under the Service Provider Licence Conditions and enforcement action shall be taken under Section 242 of the Communications and Multimedia Act 1998 (CMA 1998).

### a) Audit the Representative & its Dealers

MCMC monitors the prepaid registration process by performing periodical audits on service providers' agents/dealers and it is accomplished through spot checks (Mystery Shopper). From 26 June 2019 until 3 October 2019, MCMC had carried out Prepaid Registration Audits in the Central Region, which covers the Klang Valley area as well as in the Eastern Region, comprising the states of Kelantan, Terengganu and Pahang.

A total of 573 dealers were randomly selected and audited. Out of this number, 101 dealers were found to be in violation of the Guidelines by allowing registration using photocopies or pictures of identification documents, as well as selling pre-activated SIM cards without registration. Enforcement measures were taken on the respective service providers.

Below is a table of summary on the Prepaid Audits conducted in the Central and Eastern Regions:

	CENTRAL REGION	EASTERN REGION	TOTAL
Number of dealers audited	55	518	573
Compliance	48	424	472
Non-compliance	7	94	101

## MONITORING AND COMPLIANCE (TELECOMMUNICATIONS)

### b) Audit with Industry

A special task force consisting of MCMC and telecommunications service providers was formed to undertake surveillance activities on prepaid registrations and to refine the existing prepaid registration process. As stated in the Prepaid Guidelines, service providers are also instructed to conduct audits on their respective dealers, prepaid service end-users system and any other related system, as well as records or database that are relevant to ensure that the information recorded during the prepaid registration process is accurate.

On that note, MCMC together with service providers had conducted a Prepaid Registration Audit exercise in Sabah from 4 until 8 November 2019.

The table below indicates the compounded amount issued to service providers in 2019 due to non-compliance to the Guidelines on Prepaid Registration:

SERVICE PROVIDERS	TOTAL (FIR)	TOTAL COMPOUND (RM)
Celcom Axiata Berhad	2	100,000
Digi Telecommunications Sdn Bhd	3	150,000
Maxis Broadband Sdn Bhd	5	250,000
Tune Talk Sdn Bhd	1	50,000
U Mobile Sdn Bhd	43	2,150,000
<b>Total</b>	<b>54</b>	<b>2,700,000</b>

### Scam Calls

Over the past few years, scam cases using telecommunication services have been on the rise. Numerous tactics were adopted by the syndicates involved. An increasingly prevalent scam is the Caller ID Spoofing. It's a technique that allows the caller to spoof the originated telephone number on the recipient's Caller ID.

Since 2017, MCMC had teamed up with service providers and the Commercial Crime Investigation Department (CCID) of the Royal Malaysia Police (PDRM) to act upon and tackle scam call issues. An Industry Reference (IR) was drafted and published in 2018 for the purpose of managing and mitigating such matters. The Industry Reference contains the best practices and technical guidelines for service providers in undertaking preventive and precautionary measures. A virtual task force comprising of MCMC, service providers and CCID was established to monitor and respond promptly within 24 hours.

There was an increase in the number of complaints relating to this issue in 2019, and investigations showed that the syndicates involved had changed their modus operandi by using other channels in the network. MCMC, together with service providers have made improvements by tightening Industry Reference to combat this issue.



## MONITORING AND COMPLIANCE (TELECOMMUNICATIONS)

### Scam Awareness Campaign

Apart from monitoring efforts, there were other forms of initiatives executed in order to educate and create awareness among the general public about such scam call operations. The Ministry of Communications and Multimedia Malaysia (KKMM) had set up a working committee to narrate and plan a Cyber Crime Awareness Campaign. This working committee is formed by MCMC, PDRM, Bank Negara Malaysia (BNM) as well as all the agencies under KKMM [Malaysian National News Agency (Bernama), Department of Broadcasting Malaysia (RTM), Department of Information Malaysia (JaPen), National Film Development Corporation Malaysia (FINAS)] which have been brought together to share information and organise awareness campaigns for the benefit of the public. Among the awareness campaigns carried out are as listed below:

PROMOTION	DETAILS	DURATION
TV Crawlers	Eight (8) scripts - English & Malay All TV stations	1 October - 31 December 2019
Radio Public Service Announcements	Eight (8) scripts - English & Malay All Radio stations	
TV & Radio Interviews	Interviews with RTM Negeri (state offices) nationwide, conducted by the respective Regional Office Heads	October 2018 - December 2019
Klik Dengan Bijak (Click Wisely) - information videos	Video on financial scams from MCMC, Finas and JaPen	October 2018 - December 2019
Klik Dengan Bijak (Click Wisely) - infographic social media postings	Graphic information from KKMM/ JaPen	October 2018 - December 2019
Klik Dengan Bijak (Click Wisely) - Educational Module	Utilised in Internet safety programmes and during talks conducted nationwide	October 2018 - December 2019

### Mobile Content Services

Mobile Content Services (MCS) is defined as any messaging service which provides content and is accessible on a mobile access device or fixed access device, for which charges may be imposed over and above the standard network charges of the relevant service provider. MCS is also categorised as a service offered by virtue of five (5) digit numbers short code via Short Messaging Service (SMS).

There have been issues regarding Unsubscribed SMS which is a burden to users. Throughout 2019, 2,450 complaints were received from users who have been charged with Unsubscribed SMS.

Administrative actions were taken on non-compliance through the issuance of warning letters, penalties and suspension of short codes and keywords. MCMC continued its collaboration with the mobile content industry specialists and aggregators in its attempt to address MCS issues plaguing unfortunate subscribers.

### Termination of Mobile Numbers due to Illegal Advertisements

The move of putting up illegal advertisements is an issue which had gained the attention of Local Authorities (LAs) since 2009. This operation had appeared to be more active and rampant, masterminded by unscrupulous parties to the extent of spoiling the landscape in the affected areas. In view of the situation, LAs had established a pact with MCMC to terminate the service of telephone numbers displayed in the respective illegal advertisements.



## MONITORING AND COMPLIANCE (TELECOMMUNICATIONS)

Line termination exercise taken on related telephone numbers had begun as early as 2012 through official applications by LAs to MCMC. A Standard Operating Procedure was also issued by the Ministry of Housing and Local Government (KPKT) in collaboration with MCMC for the purpose of coordinating, streamlining and standardising the process of effectuating such act.

The total number of suspended telephone lines as at November 2019 are detailed in the table below:

LOCAL AUTHORITY	SUBMISSION	TERMINATION	REJECTED	INACTIVE
Kubang Pasu Municipal Council	62	60	2	
Muar Municipal Council	18	7	11	
Klang Municipal Council	142	142		
Sungai Petani Municipal Council	50	50		
Sarikei District Council	2	0	2	
Ipoh District Police Headquarters	1	1		
Subang Jaya Municipal Council	6	6		
Seberang Perai Municipal Council	3	3		
Commercial Crime Investigation Department (Pontian District Police Headquarters)	2	0	2	
Commercial Crime Investigation Department (South Johor Bahru District Police Headquarters)	36	0	36	
Kluang Municipal Council	1	1		
Kuala Lumpur City Hall	811	575		236
<b>Total</b>	<b>1134</b>	<b>845</b>	<b>53</b>	<b>236</b>

### Mandatory Standards for Quality of Service

Mandatory Standards for Quality of Service (MSQoS) came into existence under the Communications and Multimedia Act 1998 (CMA 1998) for the purpose of ensuring a satisfactory network quality is presented to the telecommunications users in Malaysia.

It is compulsory for every single licensee to submit their report to MCMC no later than 30 days from the end of every quarterly reporting period or six (6) weeks from the end of June or December if the reporting is on half yearly basis.

Non-compliance with MSQoS is segregated into three (3) categories:

- I) not complying with the minimum standard being imposed;
- II) late submission of report; and
- III) failure to submit report.

Any breaches to MSQoS shall be liable to a fine not exceeding RM200,000 under Section 109 or RM100,000 or imprisonment for a term not exceeding two (2) years or both as provided by Section 242 of the CMA 1998.



**MONITORING AND COMPLIANCE (TELECOMMUNICATIONS)**

Throughout 2019, a total of 22 licensees were served Non-Compliance Notices for violating minimum standards and late submission of reports. The table below indicates the standards that were not complied by licensees, which resulted in the issuance of notices:

NO.	STANDARD	NUMBER OF LICENSEES			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4
1	Late submission of report	-	1	1	1
2	Promptness in resolving customers' complaints (non-billing related complaints)	2	2	-	1
3	Promptness in resolving customers' complaints (billing related complaints)	-	2	-	1
4	Promptness in answering calls to customer hotline	3	3	3	4
5	Non-billing related complaints per 1000 customers	1	3	-	2
6	Service restoration fulfillment	1	1	1	1
7	Service disruption	1	1	1	-

## MONITORING AND COMPLIANCE (TELECOMMUNICATIONS)

### Star Rating Award

The Star Rating Award 2018 was organised for the second consecutive year in 2019 with the aim of recognising service excellence by telecommunication companies to consumers as well as to instil a culture of quality excellence and create a healthy competition environment among them.

The award is based on the performance of service providers throughout their one (1) year assessment period. The evaluations made are rested on strategic parameters determined by MCMC and verified by the Evaluation Committee and independent consultant.

The Star Rating Award 2018 was held on 30 December 2019 at MCMC's headquarters in Cyberjaya.

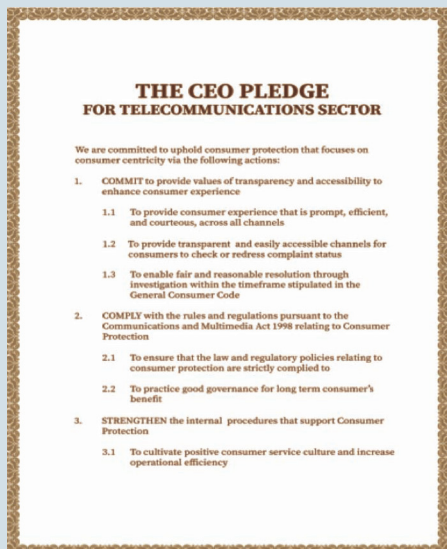
Winners of the Star Rating Award 2018 according to categories are as listed below:

AWARD CATEGORY	WINNERS
<b>Main Category</b>	
Best Public Cellular Service Provider (MNO)	Digi Telecommunications Sdn Bhd
Best Mobile Virtual Network Operator (MVNO)	XOX Com Sdn Bhd
Best Wired Broadband Access Service (BAS)	TT Dotcom Sdn Bhd
<b>Special Category</b>	
Best Corporate Social Responsibility (CSR)	Celcom Axiata Berhad
<b>Sub Category (Public Cellular Service Provider)</b>	
Best Consumer Satisfaction	Digi Telecommunications Sdn Bhd
Best Quality of Service	Digi Telecommunications Sdn Bhd & U Mobile Sdn Bhd
Best Network Investment	Maxis Broadband Sdn Bhd
Best Compliance to CMA 1998	Webe Digital Sdn Bhd

# CONSUMER COMPLAINTS BUREAU

Consumer protection is one of the most fundamental principal in the Communications and Multimedia Act 1998 (CMA 1998). On 14 June 2019, MCMC witnessed the signing ceremony of the Chief Executive Officer Pledge which involved all the main industry players. Through the pledge, all the organisations' leadership concerned, promised to prioritise consumers and manage complaints in the best way possible.

## THE CHIEF EXECUTIVE OFFICER PLEDGE 2019



The CEO Pledge 2019

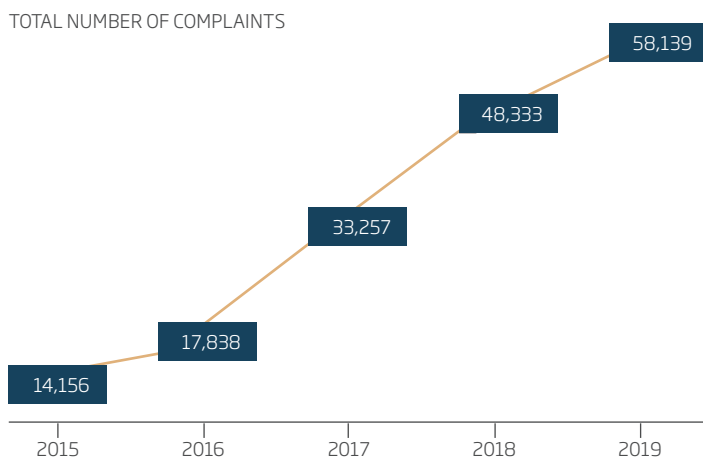
## Statistics on Complaints

As at the end of 2019, MCMC gathered 58,139 complaints relating to all kinds of communications and multimedia issues. This figure saw a surge of 20% in comparison to 48,333 complaints recorded in the previous year.

Looking at the industry as a whole, the telecommunication services sector contributed 75% to the overall total complaints made to MCMC. Majority of the cases revolved around dissatisfaction towards the level of services provided by the telecommunication service providers. And the second biggest complaint which made up 18% is related to the new media, with a particular focus on the social media platform and the public outcry on the offences related to 3Rs (Race, Religion & Royalty).

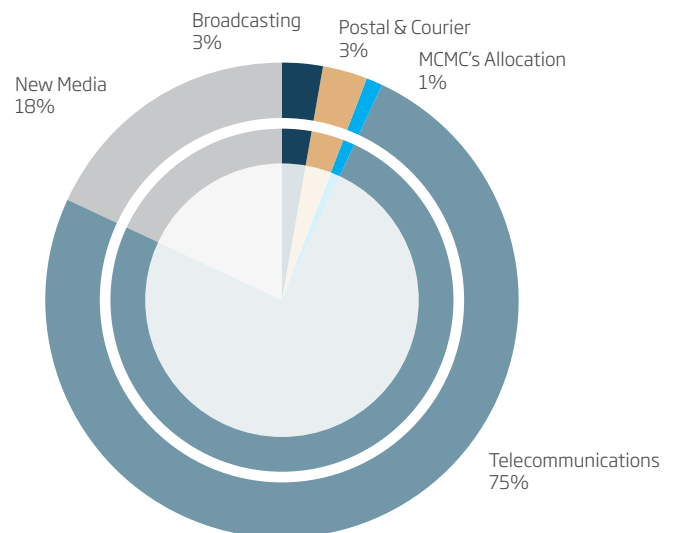
In line with technological development, the complaint trend for postal/courier and broadcasting services are also on the rise with the respective segments taking a 3% share of the total complaints received in 2019.

## TREND OF CONSUMER COMPLAINT RECEIVED BY MCMC 2015-2019



Trend of Consumer Complaint Received by MCMC 2015-2019

## COMPLAINTS BASED ON INDUSTRY IN 2019



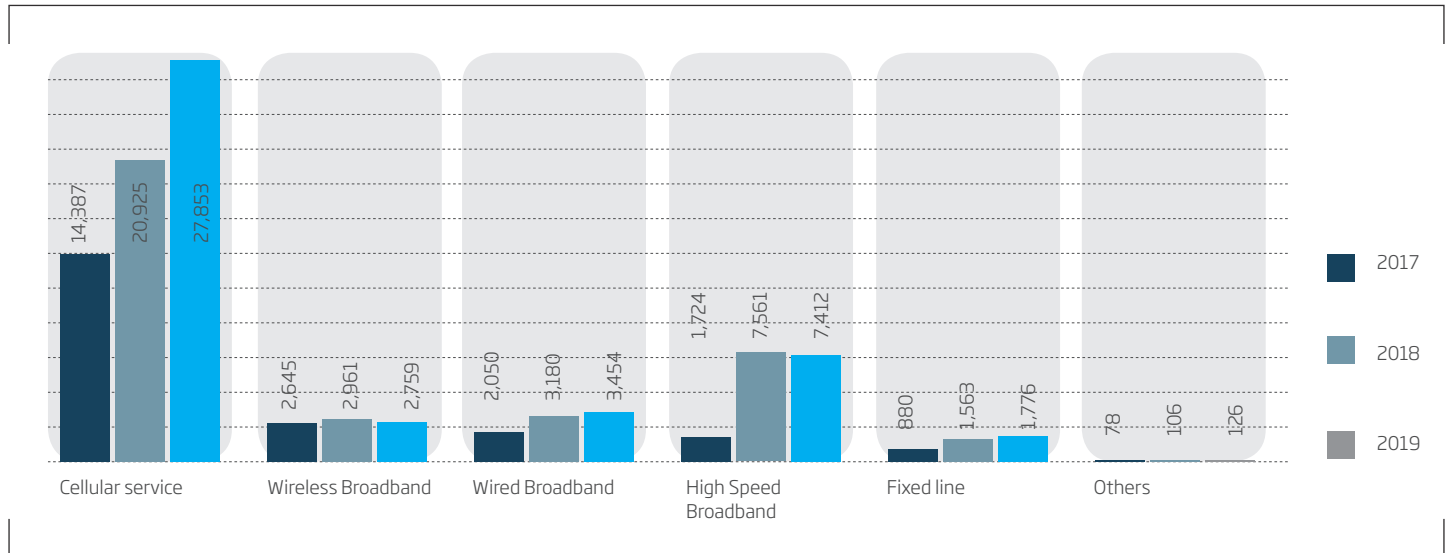
Complaints based on Industry in 2019

**CONSUMER COMPLAINTS BUREAU**

**Complaints on the Telecommunications Sector**

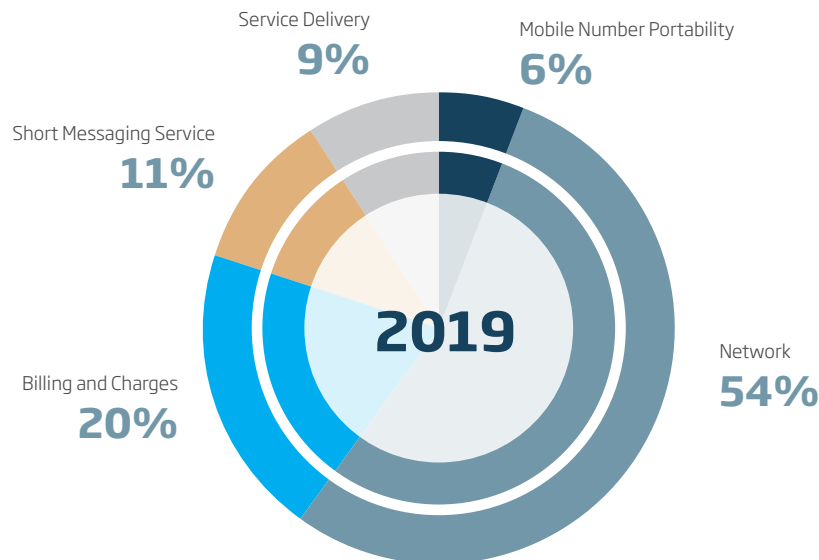
Overall, complaints on cellular services showed a substantial upsurge of 31% as compared to the previous year, whereas complaints on wired broadband rose by 9% and a 14% hike on complaints against fixed line services. However, on the contrary, complaints concerning mobile or wireless broadband and high speed broadband indicated a decline of 7% and 2% respectively in 2019 as compared to 2018.

**TYPES OF COMPLAINTS ON THE TELECOMMUNICATIONS SECTOR 2017 - 2019**



Types of Complaints on the Telecommunications Sector 2017 - 2019

**Top Five (5) Complaints on the Telecommunications Sector in 2019**



Top Five (5) Complaints on the Telecommunications Sector in 2019

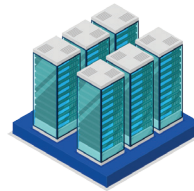
## CONSUMER COMPLAINTS BUREAU

### Billing and Charges

The second highest number of complaints were on billing and charges which accounted for 7,500 (20%) complaints from the total overall complaints against the telecommunications sector. As observed by MCMC, most of the disputes are about hidden charges as well as ambiguous terms and conditions at the point of sales.

Another issue that is on the rise relates to the direct billing system. In 2019, a total of 2,508 complaints were reported to MCMC regarding unreasonable charges being imposed on consumers which were triggered by third party application such as Google Play Store and App Store in which purchases were done via the direct billing system.

01



### Service Delivery

Service delivery recorded a total of 3,476 (9%) complaints out of the overall number of complaints made against the telecommunications sector throughout 2019. A majority of consumers were dissatisfied with the poor quality of customer service, misleading information by dealers and agents, debt collection agencies and late restoration or activation of services.

In most cases, frustrated complainants had seek redress from MCMC as well as the Minister by leveraging on social media should they continue to feel frustrated with the way service providers had handled their complaints.

02



## CONSUMER COMPLAINTS BUREAU

### 03 Short Messaging Service (SMS)

SMS related complaints were about consumers' dispute on unknown charges which were imposed in their bills. It was found that 63% of these invalid charges had originated from unsolicited SMS being sent through short codes generated by external content providers (ECP). Moreover, there were also complaints on SMS gambling, SMS scam and SMS spam.

03



04

### 04 Mobile Number Portability (MNP)

MNP presents consumers the convenience of retaining their mobile numbers although having switched to a different service provider. Throughout 2019, a total of 2,239 (6%) complaints pertaining to MNP were made, particularly on delays or rejection of the porting process and unauthorised porting.

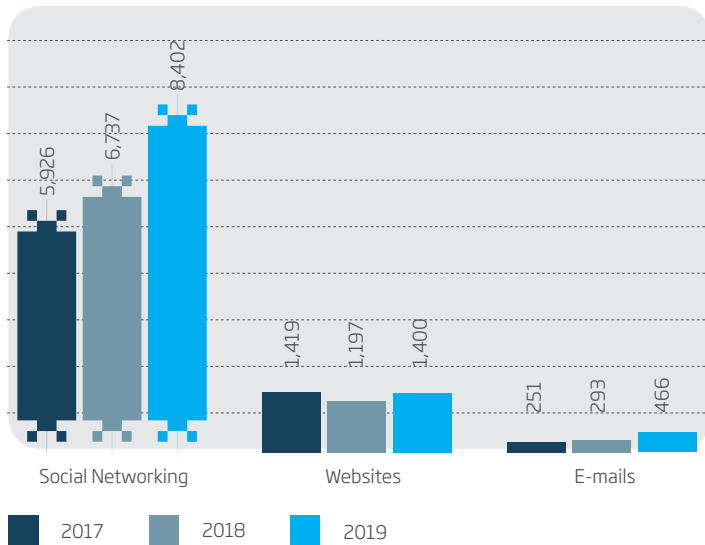


## CONSUMER COMPLAINTS BUREAU

### Complaints on the New Media

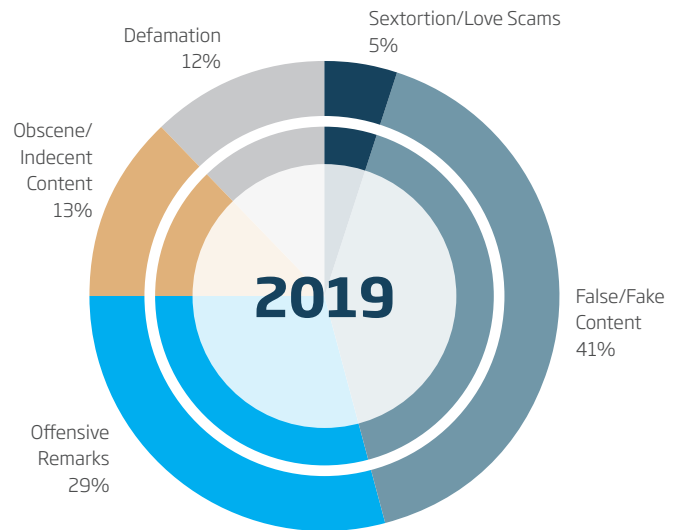
Complaints on the new media made by the public to MCMC registered 10,268 cases in total. This figure meant an escalation of 25% against a total of 8,227 complaints in 2018. Out of the entire portion, 82% or 8,402 complaints were related to social media, followed by complaints concerning websites/blogs/forums at 14% (1,400), while the rest of the complaint was regarding e-mails. For the most part, the issues were about false or fake contents (41%), offensive remarks (29%), obscene or indecent contents (13%), defamation (12%) and also sextortion/love scams (5%).

#### TYPES OF COMPLAINTS RELATED TO NEW MEDIA 2017-2019



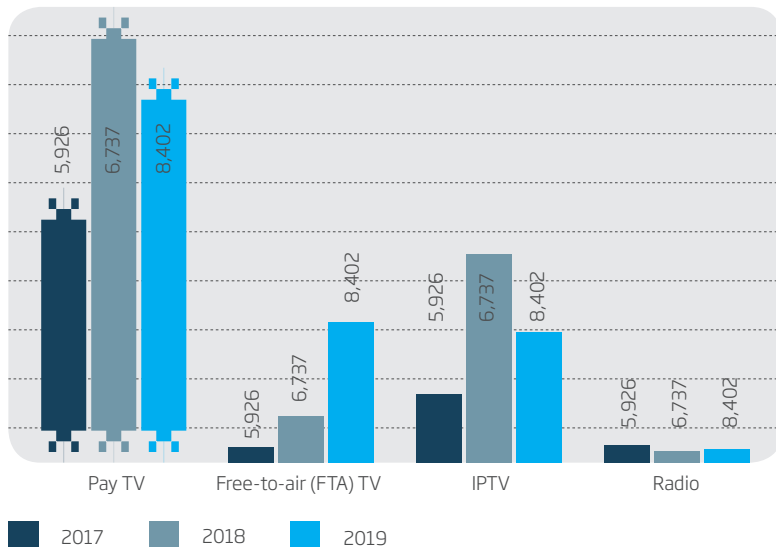
Types of Complaints Related to New Media 2017 - 2019

#### TOP FIVE (5) COMPLAINTS RELATED TO NEW MEDIA IN 2019



Top Five (5) Complaints Related to New Media in 2019.

#### TYPES OF COMPLAINTS RELATED TO BROADCASTING 2017 - 2019



Types of Complaints Related to Broadcasting 2017-2019

The highest number of complaints for the broadcasting sector in 2019 was made against Pay TV with 935 cases (58%), whereas complaints on Free-to-air (FTA) TV experienced a huge upswing of 200% with 333 cases. IPTV however, recorded a drop of 37% in 2019 as compared to the complaints made in the previous year.

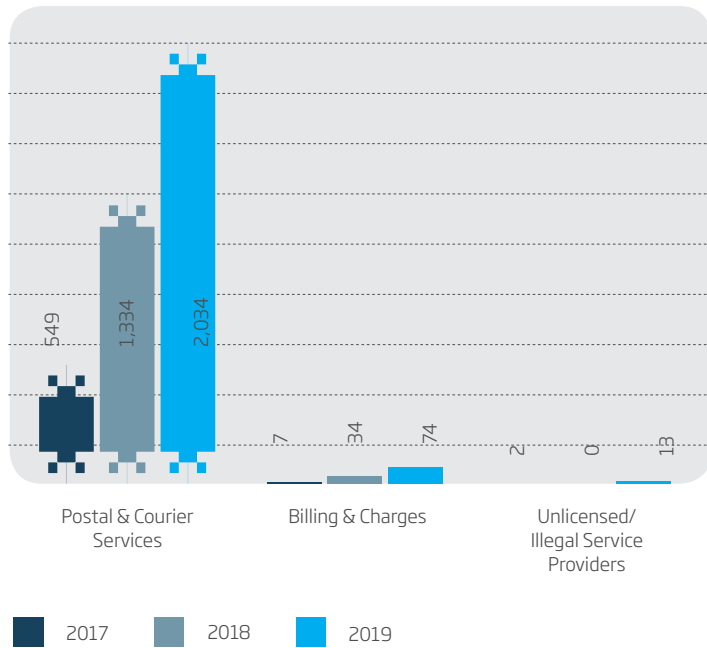


**CONSUMER COMPLAINTS BUREAU**

**Complaints on Postal and Courier Services**

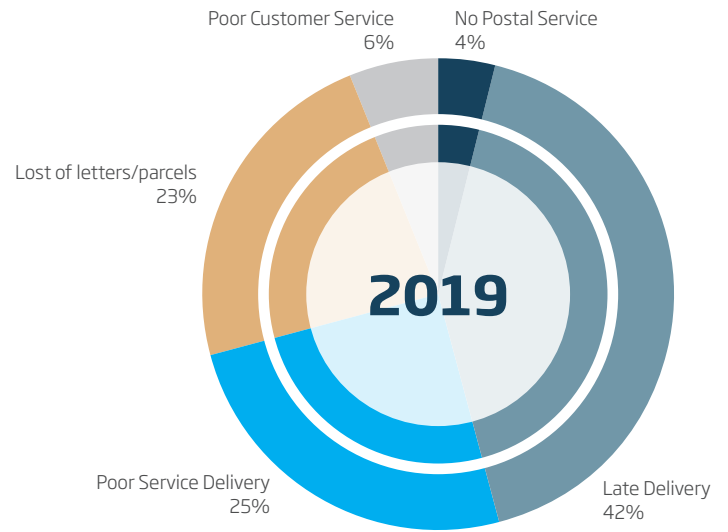
Over the past three (3) years, complaints on the postal and courier services have shown an upward trend. The year 2019 registered a marked increase of 55% compared to 2018 with a total of 2,121 complaints. The majority of complaints were about late deliveries as it stood at 42%, whilst the issue of poor service delivery account for 25% of complaints, lost of letters/parcels 23%, customer service 6% and no postal service 4%.

**TYPES OF COMPLAINTS ON POSTAL AND COURIER SERVICES 2017 - 2019**



Types of Complaints on Postal and Courier Services 2017 - 2019

**TOP FIVE (5) COMPLAINTS ON POSTAL AND COURIER SERVICES IN 2019**



Top Five (5) Complaints on Postal and Courier Services in 2019

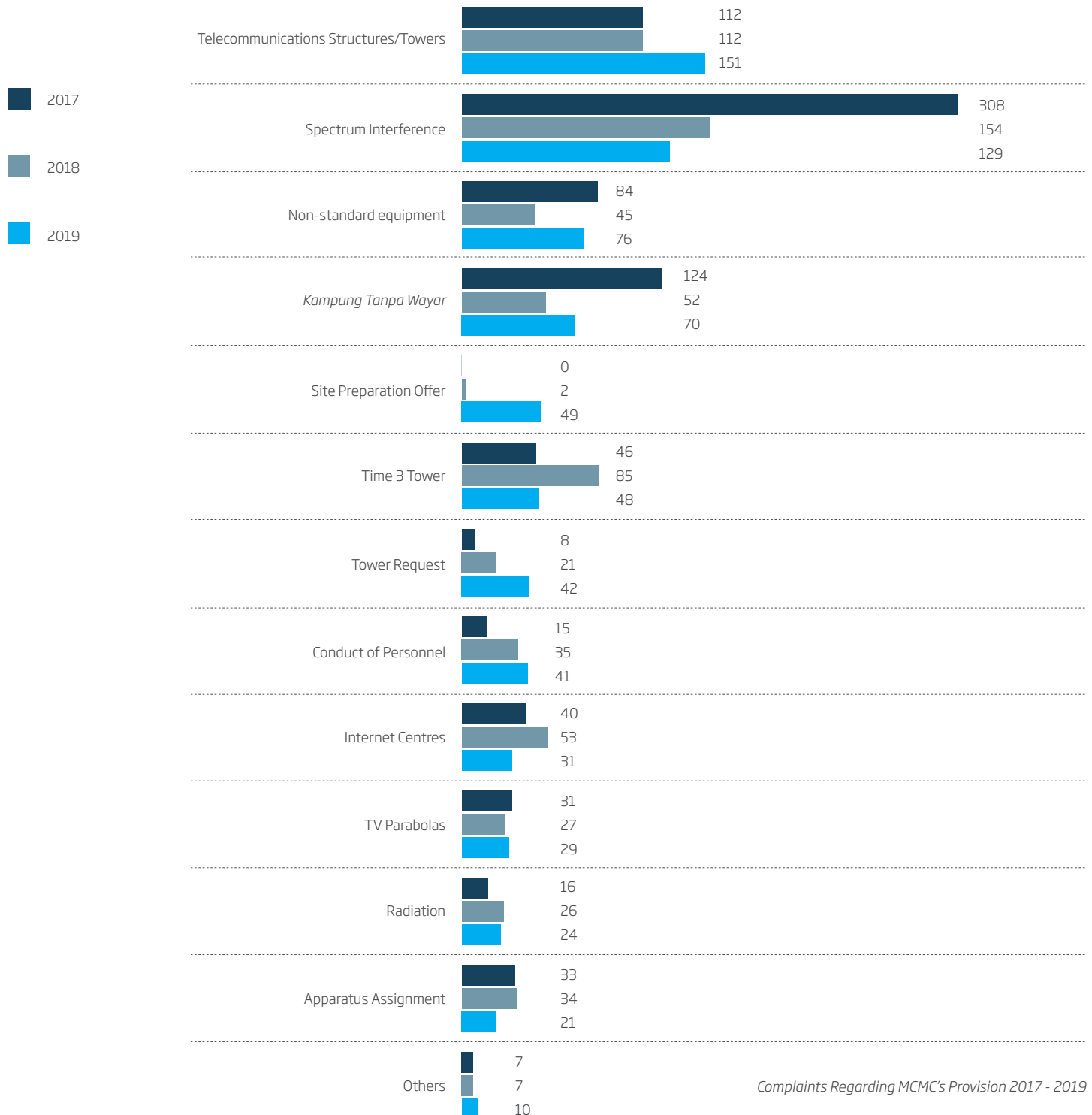


## CONSUMER COMPLAINTS BUREAU

### Complaints regarding MCMC's Provision

The top three (3) complaints made regarding MCMC's provision were about telecommunications structures/towers, spectrum interference and non-standard equipment.

#### COMPLAINTS REGARDING MCMC'S PROVISION 2017 - 2019



Complaints Regarding MCMC's Provision 2017 - 2019

**CONSUMER COMPLAINTS BUREAU**

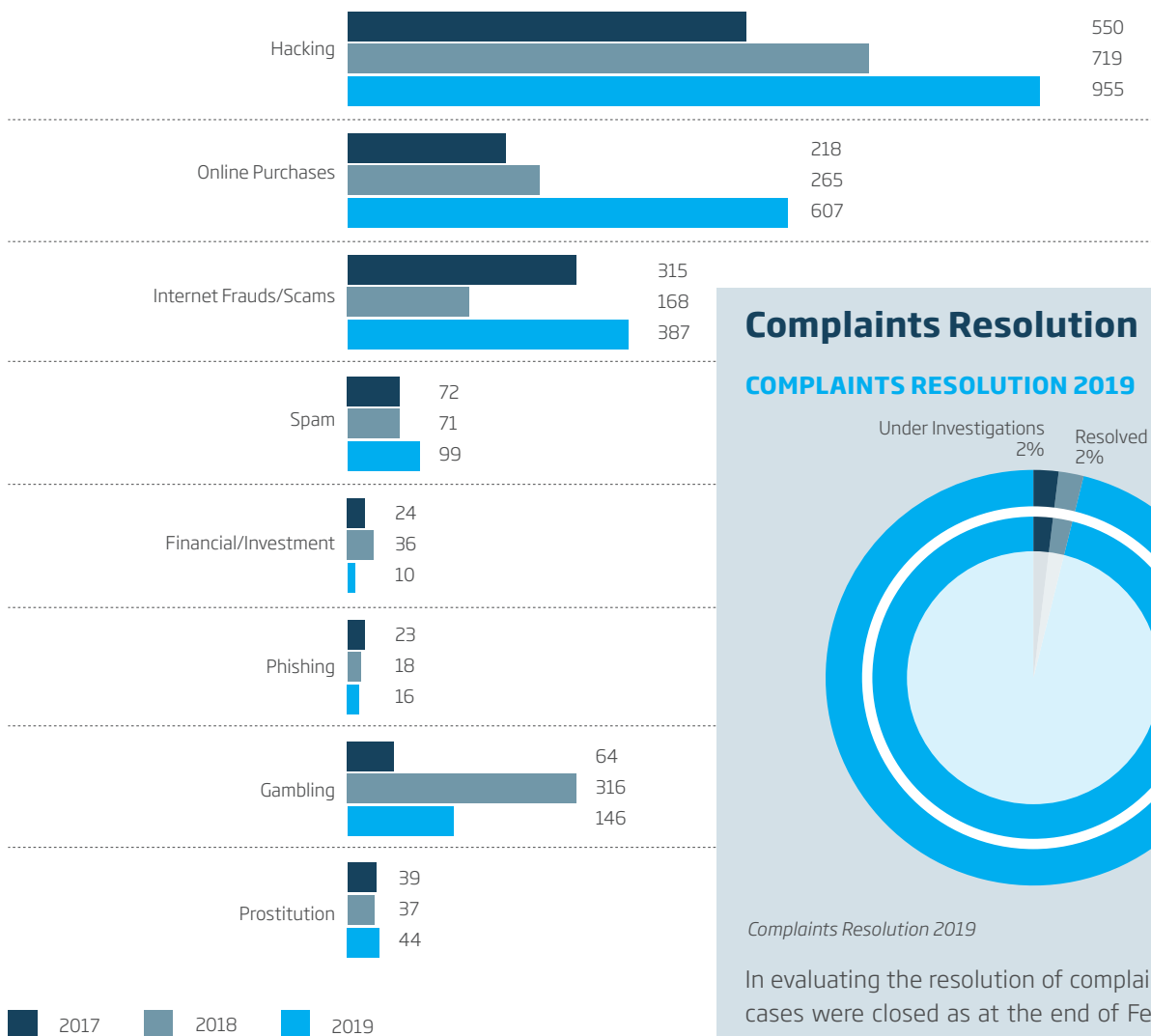
**Complaints Outside MCMC’s Jurisdiction**

In line with the technological advancement in the cyber world, MCMC receives various complaints, such as hacking, online purchases, Internet frauds/scams, phishing, spam, financial investments, gambling and prostitution.

Although these cases are not directly regulated under CMA 1998, MCMC is still on hand to provide technical assistance which is premised on solid collaboration with relevant enforcement agencies in the pursuit of preventing illegal activities.

Looking back at 2019, the top three (3) complaints reported to MCMC were issues on the hacking of social medias with 955 complaints, whilst online purchases ranked second place with 607 complaints, followed by Internet frauds/scams with 387 cases.

**COMPLAINTS OUTSIDE MCMC’S JURISDICTION**



**Complaints Resolution**

**COMPLAINTS RESOLUTION 2019**



*Complaints Resolution 2019*

In evaluating the resolution of complaints in 2019, 96% of cases were closed as at the end of February 2020, whilst the remaining 2% of complaints were resolved and another 2% remained under investigations.



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## Statement by the Commission Members of the Malaysian Communications and Multimedia Commission

We, Dr. Fadhlullah Suhaimi bin Abdul Malek and Chew Liong Kim, being two of the Commission Members of the Malaysian Communications and Multimedia Commission, do hereby state that in the opinion of the Members of the Commission, the financial statements set out on pages 113 to 155 are drawn up in accordance with Malaysian Financial Reporting Standards and International Financial Reporting Standards so as to give a true and fair view of the financial position of the Commission as of 31 December 2019 and of its income and expenditure and cash flows for the financial year then ended.

Signed in accordance with a resolution by the Commission Members of the Malaysian Communications and Multimedia Commission:



Dr. Fadhlullah Suhaimi bin Abdul Malek



Chew Liong Kim

Cyberjaya, Selangor  
6 August 2020

## Statutory declaration

I, Cho Shi Chong, the officer primarily responsible for the financial management of Malaysian Communications and Multimedia Commission, do solemnly and sincerely declare that the financial statements set out on pages 113 to 155 are, to the best of my knowledge and belief, correct and I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the Statutory Declarations Act, 1960.

Subscribed and solemnly declared by the above named at Putrajaya, Wilayah Persekutuan on 17 August 2020.



Cho Shi Chong

Before me:  
Malaysian Commissioner of Oaths  
No: A-W 243  
Azman bin Asri

17 August 2020



# Independent auditors' report to the Commission Members of Malaysian Communications and Multimedia Commission

## Report on the audit of the financial statements

### *Opinion*

We have audited the financial statements of Malaysian Communications and Multimedia Commission (the "Commission"), which comprise the statement of financial position as at 31 December 2019, and statement of income and expenditure and recognised gains and losses and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, as set out on pages 113 to 155.

In our opinion, the accompanying financial statements give a true and fair view of the financial position of the Commission as at 31 December 2019, and of its financial performance and cash flows for the year then ended in accordance with Malaysian Financial Reporting Standards and International Financial Reporting Standards.

### *Basis of opinion*

We conducted our audit in accordance with approved standards on auditing in Malaysia and International Standards on Auditing. Our responsibilities under those standards are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### *Independence and other ethical responsibilities*

We are independent of the Commission in accordance with the By-Laws (on Professional Ethics, Conduct and Practice) of the Malaysian Institute of Accountants ("By-Laws") and the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants ("IESBA Code"), and we have fulfilled our other ethical responsibilities in accordance with the By-Laws and the IESBA Code.

### *Information other than the financial statements and auditors' report thereon*

The Commission Members are responsible for the other information. The other information comprises the annual report, but does not include the financial statements of the Commission and our auditors' report thereon. We expect the annual report to be made available to us after the date of the auditors' report.

Our opinion on the financial statements of the Commission does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements of the Commission, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements of the Commission or our knowledge obtained in the audit or otherwise appears to be materially misstated.

When we read the annual report, if we conclude that there is a material misstatement therein, we are required to communicate the matter to the members of the Commission and take appropriate action.



## Independent auditors' report to the Commission Members of Malaysian Communications and Multimedia Commission (contd.)

### *Responsibilities of the members for the financial statements*

The Commission Members are responsible for the preparation of financial statements of the Commission that give a true and fair view in accordance with the Malaysian Financial Reporting Standards and International Financial Reporting Standards. The Commission Members are also responsible for such internal control as the Commission Members determine is necessary to enable the preparation of financial statements of the Commission that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements of the Commission, the Commission Members are responsible for assessing the Commission's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the members either intend to liquidate the Commission or to cease operations, or have no realistic alternative but to do so.

### *Auditors' responsibilities for the audit of the financial statements*

Our objectives are to obtain reasonable assurance about whether the financial statements of the Commission as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with approved standards on auditing in Malaysia and International Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with approved standards on auditing in Malaysia and International Standards on Auditing, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements of the Commission, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Commission's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Commission Members.
- Conclude on the appropriateness of the members' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Commission's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements of the Commission or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Commission to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements of the Commission, including the disclosures, and whether the financial statements of the Commission represent the underlying transactions and events in a manner that achieves fair presentation.

## Independent auditors' report to the Commission Members of Malaysian Communications and Multimedia Commission (contd.)

We communicate with the members of the Commission regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

### Other matters

This report is made solely to the members of the Commission, as a body, in accordance with Section 47(2) of the Malaysian Communications and Multimedia Commission Act 1998 and for no other purpose. We do not assume responsibility to any other person for the content of this report.



Ernst & Young PLT  
202006000003 (LLP0022760-LCA) & AF 0039  
Chartered Accountants



Ong Chee Wai  
No. 02857/ 07/ 2022 J  
Chartered Accountant

Kuala Lumpur, Malaysia  
6 August 2020

## Statement of financial position As at 31 December 2019

	Note	2019 RM'000	2018 RM'000 Restated	1 January 2018 RM'000 Restated
<b>Assets</b>				
<b>Non-current assets</b>				
Property, plant and equipment	3	270,694	309,420	373,290
Right-of-use assets	12	10,012	-	-
Investment properties	4	339,000	337,690	344,198
Intangible assets	5	5,362	10,041	13,203
		<u>625,068</u>	<u>657,151</u>	<u>730,691</u>
<b>Current assets</b>				
Fees and other receivables	7	14,065	21,891	66,447
Contract assets	13	11,175	12,096	11,158
Other investments	6	4,216,826	3,480,959	2,641,304
Cash and cash equivalents	8	160,231	68,976	119,924
		<u>4,402,297</u>	<u>3,583,922</u>	<u>2,838,833</u>
<b>Total assets</b>		<u>5,027,365</u>	<u>4,241,073</u>	<u>3,569,524</u>
<b>Represented by:</b>				
Accumulated funds	9	1,572,249	620,919	739,623
<b>Liabilities</b>				
<b>Non-current liability</b>				
Contract liabilities	10	2,136,708	2,265,279	2,103,139
Lease liabilities	12	7,693	-	-
		<u>2,144,401</u>	<u>2,265,279</u>	<u>2,103,139</u>
<b>Current liabilities</b>				
Contract liabilities	10	403,940	443,943	413,990
Lease liabilities	12	2,461	-	-
Other payables	11	899,413	904,922	307,080
Current tax payable		4,901	6,010	5,692
		<u>1,310,715</u>	<u>1,354,875</u>	<u>726,762</u>
<b>Total liabilities</b>		<u>3,455,116</u>	<u>3,620,154</u>	<u>2,829,901</u>
<b>Total accumulated funds and liabilities</b>		<u>5,027,365</u>	<u>4,241,073</u>	<u>3,569,524</u>

The notes form an integral part of these financial statements.

## Statement of income and expenditure and recognised gains and losses For the year ended 31 December 2019

	Note	2019 RM'000	2018 RM'000 Restated
<b>Income</b>			
Operating licence fees	13	125,690	126,967
Spectrum fees	13	960,849	857,004
Numbering assignment fees	13	18,360	18,637
Interest income		146,387	117,307
Gain on disposal of property, plant and equipment		404	24
Reversal of impairment loss on investment properties	4	23,832	-
Rental income	4	18,447	17,620
Other income	14	1,352	15,676
		1,295,321	1,153,235
<b>Expenditure</b>			
Employee benefit expenses	15	126,327	109,795
Administrative expenses		75,453	87,538
Special projects expenses	19	(1,531)	73,015
GST rebates expenses	18	-	669,429
Industry development grant expenses		160	1,080
Audit fee		150	120
Rental expenses		3,534	7,074
Depreciation of property, plant and equipment	3	45,558	64,223
Depreciation of investment properties	4	9,155	6,508
Amortisation of right-of-use asset	12	2,749	-
Amortisation of intangible assets	5	6,847	6,081
Provision for ECL on fee receivables	7	(430)	2,686
Provision for ECL on other receivables	7	180	-
Impairment loss on investment properties	4	13,367	-
Contract assets written off		508	-
Property, plant and equipment written off	3	2,018	-
Rebate entitlement expenses		17,333	18,542
Interest expenses	12	384	-
Other expenses		4,709	6,457
		306,471	1,052,548

**Statement of income and expenditure and recognised gains and losses  
For the year ended 31 December 2019 (contd.)**

	<b>Note</b>	<b>2019 RM'000</b>	<b>2018 RM'000 Restated</b>
<b>Net operating surplus</b>		988,850	100,687
Less: Payments made under Ministerial Direction(s)	22	-	(140,714)
<b>Surplus/(deficit) before tax</b>		988,850	(40,027)
Tax expenses	16	(37,520)	(28,677)
<b>Surplus/(deficit) after tax representing total recognised gains</b>	9	951,330	(68,704)

The notes form an integral part of these financial statements.



## Statement of cash flows

### For the year ended 31 December 2019

	Note	2019 RM'000	2018 RM'000 Restated
<b>Cash flows from operating activities</b>			
Surplus/(deficit) before tax		988,850	(40,027)
Adjustments for:			
Depreciation of property, plant and equipment		45,558	64,223
Depreciation of investment properties		9,155	6,508
Amortisation of intangible assets		6,847	6,081
Depreciation of right-of-use asset		2,749	-
Impairment loss on investment properties		13,367	-
Reversal of impairment loss on investment properties		(23,832)	-
Gain on disposal of property, plant and equipment		(404)	(24)
Net addition/(reversal) of provision for ECL on fee receivables		(430)	2,686
Provision for ECL on other receivables		180	-
Property, plant and equipment written off		2,018	-
Interest expense on lease liabilities		384	-
Interest income		(146,387)	(117,307)
<b>Operating surplus/(deficit) before changes in working capital</b>		<b>898,055</b>	<b>(77,860)</b>
Changes in working capital:			
Contract liabilities/deferred income		(168,574)	192,093
Contract assets		921	(12,096)
Fees and other receivables		17,987	11,826
Other payables and accrued expenses		(5,976)	597,453
Cash generated from operations		742,413	711,416
Payments made to Consolidated Fund pursuant to Section 38(3) of Malaysian Communications and Multimedia Act 1998 (Act 589)		-	(50,000)
Tax paid		(38,629)	(28,359)
<b>Net cash generated from operating activities</b>		<b>703,784</b>	<b>633,057</b>
<b>Cash flows from investing activities</b>			
Acquisition of property, plant and equipment	(i)	(10,392)	(2,884)
Acquisition of intangible assets		(159)	(24)
Interest received		136,476	109,021
Proceeds from disposal of property, plant and equipment		404	49
Placement in other investments		(735,867)	(790,167)
<b>Net cash used in investing activities</b>		<b>(609,538)</b>	<b>(684,005)</b>

**Statement of cash flows**  
**For the year ended 31 December 2019 (contd.)**

	Note	2019 RM'000	2018 RM'000 Restated
<b>Cash flows from financing activities</b>			
Net repayment of lease liabilities		(2,991)	-
<b>Net cash used in financing activities</b>		<b>(2,991)</b>	<b>-</b>
Net increase/(decrease) in cash and cash equivalents		91,255	(50,948)
Cash and cash equivalents at 1 January		68,976	119,924
<b>Cash and cash equivalents at 31 December</b>	8	<b>160,231</b>	<b>68,976</b>

**(i) Acquisition of property, plant and equipment**

During the year, the Commission acquired property, plant and equipment in the following manner:

	2019 RM'000	2018 RM'000
<b>Property, plant and equipment</b>		
Satisfied by cash payments	10,392	2,884
Payable to suppliers	467	389
	<b>10,859</b>	<b>3,273</b>



# Notes to the financial statements

## For the year ended 31 December 2019

### 1. Corporate Information

The principal activities of the Malaysian Communications and Multimedia Commission ("Commission") are to implement and to enforce the provisions of the communications and multimedia laws as stipulated in the Communications and Multimedia Act 1998 (Act 588) ("CMA") and the Malaysian Communications and Multimedia Commission Act 1998 (Act 589) ("MCMCA").

The Commission is a statutory body established under the MCMCA. The registered office of the Commission is located at MCMC Tower 1, Jalan Impact Cyber 6, 63000 Cyberjaya, Selangor Darul Ehsan.

The financial statements were approved and authorised for issue by the Commission's Members on 6 August 2020.

### 2. Summary of significant accounting policies

The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to the years presented unless otherwise stated.

#### 2.1 Basis of preparation

The financial statements of the Commission have been prepared in accordance with Malaysian Financial Reporting Standards ("MFRSs") and International Financial Reporting Standards ("IFRSs"). At the beginning of the current financial year, the Commission adopted new and revised MFRS which are mandatory for financial periods beginning on or after 1 January 2019 as described fully in Note 2.2.

The financial statements have been prepared on the historical cost basis except as disclosed in the accounting policies below.

The financial statements are presented in Ringgit Malaysia ("RM") which is also the functional currency of the Commission and all values are rounded to the nearest thousand ("RM'000") except otherwise indicated.

#### 2.2 Changes in accounting policies

On 1 January 2019, the Commission adopted the following new and amended MFRSs mandatory for annual financial periods beginning on or after the dates stated below:

Description	Effective for annual periods beginning on or after
MFRS 16: Leases	1 January 2019
Amendments to MFRS 9 Prepayment Features with Negative Compensation	1 January 2019
Amendments to MFRS 119 Plan Amendment, Curtailment or Settlement	1 January 2019
Amendments to MFRS 128 Long-term Interests in Associates and Joint Ventures	1 January 2019
Annual Improvements to MFRS Standards 2015 - 2017 Cycle	
- MFRS 112 Income Taxes	1 January 2019
- MFRS 123 Borrowing Costs	1 January 2019
IC Int 23 Uncertainty over Income Tax Treatments	1 January 2019



## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 2. Summary of significant accounting policies (contd.)

#### 2.2 Changes in accounting policies (contd.)

The adoption of the standards above have no material impact on the financial statements in the period of initial application, except as described below.

##### (a) MFRS 16: Leases

MFRS 16 supersedes MFRS 117 Leases, IC Int. 4 Determining whether an Arrangement contains a Lease, IC Int. 115 Operating Leases-Incentives and IC Int. 127 Evaluating the Substance of Transactions Involving the Legal Form of a Lease. The standard sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to recognise most leases on the balance sheet.

Lessor accounting under MFRS 16 is substantially unchanged from MFRS 117. Lessors will continue to classify leases as either operating or finance leases using similar principles as in MFRS 117.

The Commission has adopted MFRS 16 using the modified retrospective method of adoption with the date of initial application of 1 January 2019. Under this method, the standard is applied retrospectively with the cumulative effect of initially applying the standard recognised at the date of initial application.

Upon adoption of MFRS 16, the Commission applied a single recognition and measurement approach for all leases except short term leases and leases of low value assets.

The Commission recognised right-of-use assets and lease liabilities for those leases previously classified as operating leases, except for short-term leases and leases of low-value assets. The right-of-use assets were recognised based on the amount equal to the lease liabilities, adjusted for any related prepaid and accrued lease payments previously recognised. Lease liabilities were recognised based on the present value of the remaining lease payments, discounted using the incremental borrowing rate at the date of initial application.

The Commission also applied practical expedients wherein it:

- Used a single discount rate to a portfolio of leases with reasonably similar characteristics;
- Relied on its assessment on whether leases are onerous immediately before the date of initial application;
- Applied the short-term leases exemption to leases with lease terms that ends within 12 months of the date of initial application;
- Excluded the initial direct costs from the measurement of right-of-use asset at the date of initial application; and
- Using hindsight to determine the lease term where the contract contained options to extend or terminate the lease.

## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 2. Summary of significant accounting policies (contd.)

##### 2.2 Changes in accounting policies (contd.)

##### (a) MFRS 16: Leases (contd.)

The effects of adopting MFRS 16 are summarised as follows:

	Note	As previously reported RM'000	Adjustments RM'000	As restated RM'000
<b>1 January 2019</b>				
<b><u>Statement of financial position</u></b>				
<b>Non-current assets</b>				
Right-of-use assets	(i)	-	11,672	11,672
<b>Non-current liabilities</b>				
Lease liabilities	(i)	-	9,132	9,132
<b><u>Statement of financial position</u></b>				
<b>Current liabilities</b>				
Lease liabilities	(i)	-	2,540	2,540

- (i) This adjustment relates to recognition of right-of-use assets and lease liabilities arising from lease arrangements accounted for as operating lease in prior years, upon adoption of MFRS 16 as at 1 January 2019.

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 2. Summary of significant accounting policies (contd.)

#### 2.2 Changes in accounting policies (contd.)

##### (a) MFRS 16: Leases (contd.)

The lease liabilities as at 1 January 2019 can be reconciled to the operating lease commitments as of 31 December 2018 as follows:

	<b>RM'000</b>
<b>Operating lease commitments as at 31 December 2018</b>	2,986
Weighted average incremental borrowing rate as at 1 January 2019	3%
Discounted operating lease commitments as at 1 January 2019	2,770
Add: Lease payments commencing on 1 January 2019	2,907
Add: Lease payments relating to renewal periods not included in operating lease commitments as at 31 December 2018	5,995
<b>Lease liabilities as at 1 January 2019</b>	11,672

#### 2.3 Standards issued but not yet effective

The standards that are issued but not yet effective up to the date of issuance of the Commission's financial statements are disclosed below. The Commission intends to adopt these standards, if applicable, when they become effective.

<b>Description</b>	<b>Effective for annual periods beginning on or after</b>
Amendments to MFRS 101: Presentation of Financial Statements - Definition of Material	1 January 2020
Amendments to MFRS 108: Accounting Policies, Change in Accounting Estimates and Errors - Definition of Material	1 January 2020
Amendments to MFRS 3 - Definition of a Business	1 January 2020
Revised Conceptual Framework for Financial Reporting (the Conceptual Framework)	1 January 2020
Interest Rate Benchmark Reform (Amendments to MFRS 9, MFRS 139 and MFRS 7)	1 January 2020
Amendments to MFRS 138 Intangible Assets	1 January 2020
Annual Improvements to MFRS Standards 2015 - 2017 Cycle	1 January 2020
MFRS 17 Insurance Contracts	1 January 2021

The Commission Members expect that the adoption of the above standards will not have a material impact on the financial statements in the period of initial application.



## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 2. Summary of significant accounting policies (contd.)

##### 2.4 Financial assets

###### Initial recognition

Financial assets are classified, at initial recognition, as subsequently measured at amortised cost, fair value through other comprehensive income ("OCI") or fair value through profit or loss.

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Commission's business model for managing them. With the exception of fees receivables that do not contain a significant financing component or for which the Commission has applied the practical expedient, the Commission initially measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, directly attributable transaction costs. Fees receivables that do not contain a significant financing component or for which the Commission has applied the practical expedient are measured at the transaction price determined under MFRS 15. Please refer to the accounting policies stated in Note 2.13.

Purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the market place (regular way trades) are recognised on the trade date, i.e., the date that the Commission commits to purchase or sell the asset.

In order for a financial asset to be classified and measured at amortised cost or fair value through OCI, it needs to give rise to cash flows that are 'solely payments of principal and interest ("SPPI")' on the principal amount outstanding. This assessment is referred to as the SPPI test and is performed at an instrument level.

The Commission's business model for managing financial assets refers to how it manages its financial assets in order to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both.

###### Subsequent measurement

For purposes of subsequent measurement, financial assets are classified into four categories:

- (i) Financial assets at amortised cost (debt instrument);
- (ii) Financial assets at fair value through OCI with recycling of cumulative gains and losses (debt instruments);
- (iii) Financial assets designated at fair value through OCI with no recycling of cumulative gains and losses upon derecognition (equity instruments); or
- (iv) Financial assets at fair value through profit or loss.

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 2. Summary of significant accounting policies (contd.)

#### 2.4 Financial assets (contd.)

##### Subsequent measurement (contd.)

The Commission categorises its financial assets based on the following:

##### (i) Financial assets at amortised cost

The Commission measures financial assets at amortised cost if both of the following conditions are met:

- The financial asset is held within a business model with the objective to hold financial assets in order to collect contractual cash flows; and
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Financial assets at amortised cost are subsequently measured using the effective interest rate ("EIR") method and are subject to impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired.

The Commission's fees and other receivables are categorised as financial assets at amortised cost.

##### (ii) Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss, include financial assets held for trading, financial assets designated upon initial recognition at fair value through profit or loss, or financial assets mandatorily required to be measured at fair value. Financial assets are classified as held for trading if they are acquired for the purpose of selling or repurchasing in the near term. Financial assets with cash flows that are not solely payments of principal and interest are classified and measured at fair value through profit or loss, irrespective of the business model. Notwithstanding the criteria for debt instruments to be classified at amortised cost or at fair value through OCI, as described above, debt instruments may be designated at fair value through profit or loss on initial recognition if doing so eliminates, or significantly reduce, an accounting mismatch.

The Commission's other investments are categorised as financial assets at fair value through profit or loss.

## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 2. Summary of significant accounting policies (contd.)

##### 2.4 Financial assets (contd.)

###### Derecognition

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognised (i.e., removed from the Commission's statement of financial position) when:

- (i) The rights to receive cash flows from the asset have expired; or
- (ii) The Commission has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a 'pass-through' arrangement; and either (a) the Commission has transferred substantially all the risks and rewards of the asset, or (b) the Commission has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

When the Commission has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates if, and to what extent, it has retained the risks and rewards of ownership. When it has neither transferred nor retained substantially all of the risks and rewards of the asset, nor transferred control of the asset, the Commission continues to recognise the transferred asset to the extent of its continuing involvement. In that case, the Commission also recognises an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Commission has retained.

##### 2.5 Financial liabilities

###### Initial recognition

Financial liabilities are classified according to the substance of the contractual arrangements entered into and the definitions of a financial liability.

Financial liabilities are recognised in the statement of financial position when, and only when, the Commission becomes a party to the contractual provisions of the financial instrument. The Commission's financial liabilities are classified as subsequently measured at amortised cost. The Commission has not designated any financial liabilities as at fair value through profit or loss.

###### Subsequent measurement

Trade and other payables are recognised initially at fair value plus directly attributable transaction costs and subsequently measured at amortised cost using the effective interest rate method.

###### Derecognition

A financial liability is derecognised when the obligation under the liability is extinguished. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying amounts is recognised in profit or loss.

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 2. Summary of significant accounting policies (contd.)

#### 2.6 Property, plant and equipment

All items of property, plant and equipment are initially recorded at cost. The cost of an item of property, plant and equipment is recognised as an asset if, and only if, it is probable that future economic benefits associated with the item will flow to the Commission and the cost of the item can be measured reliably.

Subsequent to recognition, property, plant and equipment except for freehold land are measured at cost less accumulated depreciation and accumulated impairment losses. When significant parts of property, plant and equipment are required to be replaced in intervals, the Commission recognises such parts as individual assets with specific useful lives and depreciation, respectively. Likewise, when a major inspection is performed, its cost is recognised in the carrying amount of the property, plant and equipment as a replacement if the recognition criteria are satisfied. All other repair and maintenance costs are recognised in profit or loss as incurred.

The present value of the expected cost for the dismantling and decommissioning of the asset after its use is included in the cost of the respective asset if the recognition criteria for a provision are met and is depreciated over the lease term.

Depreciation is calculated on a straight-line basis over the estimated useful lives of the assets as follows:

• Office and communication equipment	6 – 7 years
• Computer equipment	3 years
• Furniture and fittings	6 – 7 years
• Motor vehicles	5 years
• Buildings	50 years
• Renovation	3 years

Work-in-progress assets are not depreciated as these assets are not yet available for use and will be transferred to the relevant category of assets and depreciated accordingly when the assets are completed and ready for their intended use.

The carrying values of property, plant and equipment are reviewed for impairment when events or changes in circumstances indicate that the carrying values may not be recoverable.

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss on derecognition of the asset is included in the profit or loss in the year the asset is derecognised.

The residual value, useful life and depreciation method are reviewed at each reporting date, and adjusted prospectively, if appropriate.

## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 2. Summary of significant accounting policies (contd.)

##### 2.7 Investment properties

Investment properties are properties which are owned to earn rental income or for capital appreciation or for both, but not for sale in the ordinary course of business, use in the production or supply of goods or services or for administrative purposes.

Investment properties are stated at cost less any accumulated depreciation and any accumulated impairment losses.

Depreciation is recognised in the statement of income and expenditure on a straight-line basis at 2.5% per annum.

An investment property is derecognised on its disposal, or when it is permanently withdrawn from use and no future economic benefits are expected from its disposal. The difference between the net disposal proceeds and the carrying amount is recognised in profit or loss in the period in which the item is derecognised.

##### 2.8 Intangible assets

Intangible assets acquired separately are measured on initial recognition at cost. Following the initial recognition, intangible assets are carried at cost less accumulated amortisation and any accumulated impairment losses. Intangible assets with finite useful lives are amortised on a straight line basis over the estimated economic useful lives of three years and assessed for impairment whenever there is an indication that the intangible assets may be impaired. The amortisation period and the amortisation method for an intangible asset are reviewed at each reporting date, and adjusted prospectively, if appropriate.

The useful lives of intangible assets are assessed as either finite or indefinite. Intangible assets with finite useful lives are amortised on a straight-line basis over the economic useful lives and assessed for impairment whenever there is an indication that the intangible may be impaired. The amortisation period and method are reviewed at least at each financial year end. Changes in the expected useful lives or the expected pattern of consumption of future economic benefits embodied in the asset are accounted for by changing the amortisation period or method and treated as changes in accounting estimates. The amortisation expense on intangible assets with finite lives is recognised in profit or loss.

##### 2.9 Leases

The Commission assesses at contract inception whether a contract is, or contains, a lease, that is, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

###### Commission as lessee

The Commission applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The Commission recognises lease liabilities to make lease payments and right-of-use assets representing the right to use the underlying assets.



## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 2. Summary of significant accounting policies (contd.)

#### 2.9 Leases (contd.)

##### Commission as lessee (contd.)

##### (i) Right-of-use assets

The Commission recognises a right-of-use assets at the lease commencement date of the lease (i.e. the date underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognised, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. Right-of-use asset are depreciated on a straight-line basis over the shorter of the lease term and the estimated useful lives of the asset, as follows:

• Copiers	5 years
• Office	2 to 9 years
• National Spectrum Monitoring ("NASMOC") equipment	2 to 11 years

If ownership of the leased asset transfers to the Commission at the end of the lease term or the cost reflects the exercise of a purchase option, depreciation is calculated using the estimated useful life of the asset. The right-to-use assets are also subject to impairment. Refer to accounting policies in Note 2.18 Impairment of non-financial assets.

##### (ii) Lease liabilities

At the commencement date of the lease, the Commission recognises lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including insubstance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Commission and payments of penalties for terminating the lease, if the lease term reflects the Commission exercising the option to terminate. Variable lease payments that do not depend on an index or a rate are recognised as expenses (unless they are incurred to produce inventories) in the period in which the event or condition that triggers the payment occurs.

In calculating the present value of lease payments, the Commission uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a material modification, a material change in the lease term, a material change in the lease payments (e.g., changes to future payments resulting from a change in an index or rate used to determine such lease payments) or a change in the assessment of an option to purchase the underlying asset.

## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 2. Summary of significant accounting policies (contd.)

##### 2.9 Leases (contd.)

###### Commission as lessee (contd.)

###### (iii) Short-term leases and leases of low-value assets

The Commission applies the short-term lease recognition exemption to its short-term leases of office equipment (i.e., those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases of office equipment that are considered to be low value. Lease payments on short-term leases and leases of low-value assets are recognised as expense on a straight-line basis over the lease term.

###### Commission as a lessor

Leases in which the Commission does not transfer substantially all the risks and rewards incidental to ownership of an asset are classified as operating leases. Rental income arising is accounted for on a straight-line basis over the lease terms and is included in revenue in the statement of profit or loss due to its operating nature. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognised over the lease term on the same basis as rental income. Contingent rents are recognised as revenue in the period in which they are earned.

##### 2.10 Cash and cash equivalents

Cash and cash equivalents consist of cash on hand, balances and deposits with banks and highly liquid investments which have an insignificant risk of changes in fair value with original maturities of three months or less, and are used by the Commission in the management of their short term commitments.

##### 2.11 Impairment of financial assets

The Commission recognises an allowance for expected credit loss ("ECL") for all debt instruments not held at fair value through profit or loss. ECL is based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Commission expects to receive.

ECL is recognised in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECL is provided for credit losses that result from default events that are possible within the next 12-months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

For fees receivables, the Commission applies a simplified approach in calculating ECL. Therefore, the Commission does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECL at each reporting date. The Commission has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the licensees and the economic environment.

A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 2. Summary of significant accounting policies (contd.)

#### 2.12 Employee benefits

##### (i) Short-term employee benefits

Wages, salaries, bonuses and social security contributions are recognised as an expense in the year in which the associated services are rendered by employees of the Commission. Short term accumulating compensated absences such as paid annual leave are recognised when services are rendered by employees that increase their entitlement to future compensated absences. Short term non-accumulating compensated absences such as sick leave are recognised when the absences occur.

##### (ii) Defined contribution plans

Defined contribution plans are post-employment benefit plans under which the Commission pays fixed contributions into separate entities or funds and will have no legal or constructive obligation to pay further contributions if any of the funds do not hold sufficient assets to pay all employee benefits relating to employee services in the current and preceding financial years. Such contributions are recognised as an expense in profit or loss as incurred. As required by law, entities in Malaysia make such contributions to the Employees Provident Fund ("EPF").

#### 2.13 Revenue from contracts with customers

The Commission is the regulatory body of the communications and multimedia industry. Revenue from contracts with its licensees is recognised when control of the services are transferred to the licensees at an amount that reflects the consideration to which the Commission expects to be entitled in exchange for those services.

##### (i) Operating licence fees

Income relating to granting of operating licence are recognised when (or as) the Commission satisfies over time, a performance obligation by transferring a promised service (i.e. a license) to the licensee. The right to use the license is transferred when (or as) the licensee obtains control of that license.

Income relating to the application fee of individual license are recognised at the point in time when the Commission approves and processes the application of the interested licensees.

##### (ii) Spectrum fees

Spectrum fees consist of apparatus and spectrum assignment fees. There is a performance obligation by transferring a promised service (i.e. the right to operate in the spectrum) to the licensee and the income from apparatus and spectrum assignment fees are recognised over the license period (i.e. over time) which has a tenure ranging from 1 to 16 years. An asset is transferred when the licensee obtains the control to operate in the spectrum.

Income relating to the application fee of apparatus assignments are recognised at the point in time when the Commission approves and processes the application of the interested licensees.

## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 2. Summary of significant accounting policies (contd.)

##### 2.13 Revenue from contracts with customers (contd.)

###### (iii) Numbering assignment fees

There is a performance obligation by transferring a promised service (i.e. the right to use the number assignments) to the licensee and the income from numbering assignment is recognised over the agreed time frame (i.e. over time). An asset is transferred when the licensee obtains the control to use the number assignments.

Income relating to the application fee of numbering assignments are recognised at the point in time when the Commission approves and processes the application of the interested licensees.

###### (iv) Interest income

Interest income is recognised on a time proportion basis that reflects the effective yield on the asset, unless recoverability is in doubt, in which case, it is recognised on receipt basis.

##### 2.14 Contract assets

Contract asset is the Commission's right to consideration in exchange for granting operating licenses to licensees.

Billings to licensees are performed at the end of the licensees' anniversary date for the license. As revenue from operating licenses are recognised over time, however, the Commission has accrued the license income but has not billed the licensees. The unbilled license income gives rise to a contract asset. Upon billing to licensees at the end of the anniversary, the amount recognised as contract assets is reclassified to fees receivables.

##### 2.15 Income tax

Income tax expense is in respect of tax on interest and rental income earned during the financial year. All other income is exempted from taxation as the Commission is tax exempt under Section 127(3)(b) of the Income Tax Act, 1967.

Income tax expense comprises current tax. Current tax is recognised in the statement of income and expenditure.

Current tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantively enacted by the end of the reporting period, and any adjustment to tax payable in respect of previous financial years.

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 2. Summary of significant accounting policies (contd.)

#### 2.16 Fair value measurement

The Commission measures financial instruments and non-financial assets at fair value at each reporting date.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either:

- (i) In the principal market for the asset or liability; or
- (ii) In the absence of a principal market, in the most advantageous market for the asset or liability.

The principal or the most advantageous market must be accessible to or by the Commission.

The fair value of an asset or liability is measured using the assumptions that the market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participants that would use the asset in its highest and best use.

The Commission uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximising the use of relevant observable inputs and minimising the use of unobservable inputs.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorised within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

- (i) Level 1 - the fair value is measured using quoted prices (unadjusted) in active markets for identical assets or liabilities.
- (ii) Level 2 - the fair value is measured using inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- (iii) Level 3 - the fair value is measured using inputs for the asset or liability that are not based on observable market data (unobservable inputs).

For assets and liabilities that are recognised in the financial statements on a recurring basis, the Commission determines whether transfers have occurred between Levels in the hierarchy by re-assessing categorisation (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 2. Summary of significant accounting policies (contd.)

##### 2.17 Provisions

Provisions are recognised when the Commission has a present obligation as a result of a past event and it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate of the amount can be made. Provisions are reviewed at each reporting date and adjusted to reflect the current best estimate. Where the effect of the time value of money is material, provisions are discounted using a current pre-tax rate that reflects, where appropriate, the risks specific to the liability. Where discounting is used, the increase in the provision due to the passage of time is recognised as finance cost.

##### 2.18 Impairment of non-financial assets

The Commission assesses, at each reporting date, whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, the Commission estimates the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's or cash-generating unit's ("CGU") fair value less costs to sell and its value in use. Recoverable amount is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. When the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. For the purpose of impairment assessment, assets are grouped at the lowest level for which there is separately identifiable cash flows.

Impairment losses of continuing operation are recognised in statement of income and expenditure in those expense categories consistent with the function of the impaired asset.

An assessment is made at each reporting date to determine whether there is an indication that previously recognised impairment losses no longer exist or have decreased. If such indication exists, the Commission estimates the asset's or CGU's recoverable amount. A previously recognised impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognised. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognised for the asset in prior years. Such reversal is recognised in profit or loss unless the asset is carried at a revalued amount, in which case, the reversal is treated as a revaluation increase.

##### 2.19 Current and non-current classification

The Commission presents assets and liabilities in the statement of financial position based on current and non-current classification.

An asset is classified as current when it is:

- expected to be realised or intended to be sold or consumed in normal operating cycle;
- held primarily for the purpose of trading;
- expected to be realised within 12 months after the reporting period; or
- cash and cash equivalents unless restricted from being exchanged or used to settle a liability for at least 12 months after the reporting period.

All other assets are classified as non-current.

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 2. Summary of significant accounting policies (contd.)

#### 2.19 Current and non-current classification (contd.)

A liability is classified as current when:

- it is expected to be settled in normal operating cycle;
- it is held primarily for the purpose of trading;
- it is due to be settled within 12 months after the reporting period; or
- there is no unconditional right to defer the settlement of the liability for at least 12 months after the reporting period.

All other liabilities are classified as non-current.

#### 2.20 Significant accounting judgements and estimates

The preparation of the Commission's financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities at the reporting date. However, uncertainty about these assumptions and estimates could result in outcomes that could require a material adjustment to the carrying amount of the asset or liability affected in the future.

##### (i) Critical judgements made in applying accounting policies

There were no critical judgements made in applying the accounting policies of the Commission which may have significant effects on the amounts recognised in the financial statements.

##### (ii) Key sources of estimation uncertainty

The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

##### (a) Provision for expected credit losses ("ECL") for fees receivables

The Commission uses a provision matrix to calculate ECL for fee receivables. The provision rates are based on days past due for groupings of various licensees segments that have similar loss patterns.

The provision matrix is initially based on the Commission's historical observed default rates. The Commission will calibrate the matrix to adjust the historical credit loss experience with forward-looking information. For instance, if forecast economic conditions (i.e., gross domestic product) are expected to deteriorate over the next year which can lead to an increased number of defaults, the historical default rates are adjusted. At every reporting date, the historical observed default rates are updated and changes in the forward-looking estimates are analysed.

The assessment of the correlation between historical observed default rates, forecast economic conditions and ECL is a significant estimate. The amounts of ECL are sensitive to changes in circumstances and of forecast economic conditions. The Commission's historical credit loss experience and forecast of economic conditions may also not be representative of licensees actual default in the future.

## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 2. Summary of significant accounting policies (contd.)

##### 2.20 Significant accounting judgements and estimates (contd.)

###### (ii) Key sources of estimation uncertainty (contd.)

###### (a) Provision for expected credit losses ("ECL") for fees receivables (contd.)

However, the Commission concluded that licensees ECL does not have high correlation with forecast economic factors.

The information about the ECL on the Commission's fees receivables is disclosed in Note 7.

###### (b) Useful life of property, plant and equipment, investment properties and intangible assets

The Commission estimates the useful lives of property, plant and equipment, investment properties and intangible assets based on the period over which the assets are expected to be available for use. The estimated useful lives of property, plant and equipment, investment properties and intangible assets are reviewed periodically and are updated if expectations differ from previous estimate due to physical wear and tear, technical or commercial obsolescence and legal or other limits on the use of the assets. Changes in expected level of usage and economic development could impact the economic useful lives and the residual values of these assets, and hence future depreciation charges on such assets could be revised.

###### (c) Determining the lease term of contracts with renewal and termination options - Commission as a lessee

The Commission determines the lease term as the non-cancellable term of lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised.

The Commission has several lease contracts that include extension and termination options. The Commission applies judgement in evaluating whether it is reasonably certain to exercise the option to renew the lease. It considers all the relevant factors that create an economic incentive for it to exercise the renewal. After the commencement date, the Commission reassesses the lease term if there is a significant event or change in circumstances that is within its control and affects its ability to exercise or not to exercise the option to renew or to terminate.

###### (d) Incremental borrowing rate for leases

The Commission cannot readily determine the interest rate implicit in the lease, therefore it uses the incremental borrowing rate ("IBR") to measure lease liabilities. The IBR is the rate of interest that the Commission would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. The IBR therefore reflects what the Commission 'would have to pay', which requires estimation when no observable rates are available or when they need to be adjusted to reflect the terms and conditions of the lease. The Commission estimates the IBR using observable inputs (such as market interest rates) when available and is required to make certain entity-specific estimates (such as the Commission's stand-alone credit rating).



**Notes to the financial statements**  
**For the year ended 31 December 2019 (contd.)**

**3. Property, plant and equipment**

	Office and communication equipment	Computer equipment	Furniture and fittings	Motor vehicles	Freehold land	Buildings	Renovation	Capital work-in progress	Total
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
<b>Cost</b>									
At 1 January 2019	16,604	365,314	5,019	15,016	10,873	260,633	7,382	1,304	682,145
Additions	443	2,021	183	1,158	-	-	-	7,054	10,859
Disposals	-	-	-	(1,930)	-	-	-	-	(1,930)
Write-offs	(1,866)	(953)	(1,829)	-	-	-	(1,491)	-	(6,139)
Reclassification	186	2,070	-	-	-	-	3,502	(5,758)	-
Transfer to intangible assets (Note 5)	-	-	-	-	-	-	-	(2,009)	(2,009)
At 31 December 2019	15,367	368,452	3,373	14,244	10,873	260,633	9,393	591	682,926
<b>Accumulated depreciation</b>									
At 1 January 2019	9,981	316,464	3,299	10,497	-	27,986	4,498	-	372,725
Charge for the year	1,912	34,002	290	1,667	-	5,213	2,474	-	45,558
Disposals	-	-	-	(1,930)	-	-	-	-	(1,930)
Write-off	(1,052)	(953)	(956)	-	-	-	(1,160)	-	(4,121)
At 31 December 2019	10,841	349,513	2,633	10,234	-	33,199	5,812	-	412,232
<b>Net carrying amount as at 31 December 2019</b>	4,526	18,939	740	4,010	10,873	227,434	3,581	591	270,694

## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### ▼ 3. Property, plant and equipment (contd.)

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Cost	Office and communication equipment	Computer equipment	Furniture and fittings	Motor vehicles	Freehold land	Buildings	Renovation	Capital work-in progress	Total
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
At 1 January 2018	16,309	341,695	4,973	13,629	10,873	260,229	6,257	27,949	681,914
Additions	195	771	38	1,534	-	404	-	331	3,273
Disposals	-	-	-	(147)	-	-	-	-	(147)
Reclassification	100	22,848	8	-	-	-	1,125	(24,081)	-
Transfer to intangible assets (Note 5)	-	-	-	-	-	-	-	(2,895)	(2,895)
At 31 December 2018	16,604	365,314	5,019	15,016	10,873	260,633	7,382	1,304	682,145
<b>Accumulated depreciation</b>									
At 1 January 2018	7,801	263,997	2,791	9,138	-	22,780	2,117	-	308,624
Charge for the year	2,180	52,467	508	1,481	-	5,206	2,381	-	64,223
Disposals	-	-	-	(122)	-	-	-	-	(122)
At 31 December 2018	9,981	316,464	3,299	10,497	-	27,986	4,498	-	372,725
<b>Net carrying amount as at 31 December 2018</b>	6,623	48,850	1,720	4,519	10,873	232,647	2,884	1,304	309,420

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 4. Investment properties

	<b>2019</b>	<b>2018</b>
	<b>RM'000</b>	<b>RM'000</b>
<b>Cost</b>		
At 1 January/31 December	472,092	472,092
<b>Accumulated depreciation</b>		
At 1 January	36,180	29,672
Charge for the year	9,155	6,508
At 31 December	45,335	36,180
<b>Accumulated impairment loss</b>		
At 1 January	98,222	98,222
Charge for the year	13,367	-
Reversal of impairment loss	(23,832)	-
At 31 December	87,757	98,222
<b>Net carrying amount</b>		
At 31 December	339,000	337,690
Fair value of investment properties	339,000	356,000

The following is recognised in the statement of income and expenditure in respect of the investment properties.

	<b>2019</b>	<b>2018</b>
	<b>RM'000</b>	<b>RM'000</b>
Rental income	18,447	17,620
Rental related expenditure	(8,958)	(9,291)

## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 4. Investment properties (contd.)

##### 4.1 Fair value information

Fair value of investment properties are categorised as follows:

	<b>Level 3</b>	
	<b>2019</b>	<b>2018</b>
	<b>RM'000</b>	<b>RM'000</b>
Land and building	339,000	356,000

During the current financial year, the Commission has engaged an independent valuer with recognised qualifications and relevant experience in determining the fair values of the investment properties. The fair values were determined based on income approach method.

In assessing the fair values using the income approach, the independent valuer considered inputs such as monthly gross rental per square feet and monthly maintenance cost per square feet. These inputs were adjusted from its base value derived from existing rental agreements and historical information maintained by the Commission. The values were then discounted at a discount rate of 6% to arrive at the fair value of the investment properties.

##### Sensitivity analysis

A significant increase or decrease in the unobservable inputs used in the valuation would result in a correspondingly higher or lower fair value of the investment properties.

##### 4.2 Impairment loss of investment properties

During the year, the Commission reviewed the investment properties for indication of impairment and as a result, the Commission recognised an impairment loss of RM13.37 million in the statement of income and expenditure for one property while there was a reversal of RM23.83 million for another.

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 5. Intangible assets - software

	Note	2019 RM'000	2018 RM'000
<b>Cost</b>			
At 1 January		19,427	16,508
Addition		159	24
Reclassification from property, plant and equipment	3	2,009	2,895
As at 31 December		21,595	19,427
<b>Accumulated amortisation</b>			
At 1 January		9,386	3,305
Charge for the year		6,847	6,081
At 31 December		16,233	9,386
<b>Net carrying amount</b>			
At 31 December		5,362	10,041

### 6. Other investments

	2019 RM'000	2018 RM'000
Deposits placed with licensed banks	4,216,826	3,480,959
	4,216,826	3,480,959

The weighted average effective interest rate and the average maturity of the deposits as at 31 December are as follows:

	Weighted average effective interest rate		Average maturity	
	2019 %	2018 %	2019 days	2018 days
Deposits placed with licensed banks	3.82	4.00	337	332
	3.82	4.00	337	332



## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 7. Fees and other receivables

	2019 RM'000	2018 RM'000
<b>Fees receivables</b>		
Fees receivables	16,485	17,711
Less: Provision for ECL	(6,630)	(7,060)
Fees receivables, net	9,855	10,651
<b>Other receivables</b>		
Interest receivable	51	127
Deposits	2,056	2,085
Staff loans	706	711
Advances to staff	3	98
Others	1,574	8,219
	4,390	11,240
Less: Provision for ECL	(180)	-
	4,210	11,240
Fees and other receivables	14,065	21,891
Add: Cash and cash equivalents (Note 8)	160,231	68,976
Total financial assets at amortised cost	174,296	90,867

#### Provision for expected credit loss

	2019 RM'000	2018 RM'000
At 1 January, as previously reported	7,060	2,658
Effect arising from initial adoption of MFRS 9	-	1,716
At 1 January, restated	7,060	4,374
Net (reversals)/additions during the year	(430)	2,686
At 31 December	6,630	7,060

An impairment analysis is performed at each reporting date using a provision matrix to measure expected credit loss ("ECL"). The provision rates are based on days past due for groupings of various licensees segments with similar loss patterns. The calculation reflects the probability-weighted outcome, the time value of money and reasonable and supportable information that is available at the reporting date about past events, current conditions and forecasts of future economic conditions. Generally, fees receivables are written-off if past due for more than one year and are not subject to enforcement activity.

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 7. Fees and other receivables (contd.)

#### Provision for expected credit loss (contd.)

Set out below is the information of the credit risk exposure on the Commission's fees receivables using a provision matrix:

#### 31 December 2019

	Average ECL rate %	Gross carrying amount RM'000	Provision for ECL RM'000
1 to 30 days	10%	8,824	919
31 to 60 days	16%	978	159
61 to 90 days	33%	500	167
91 to 120 days	40%	250	101
121 to 365 days	60%	1,625	976
More than 365 days	100%	4,308	4,308
		16,485	6,630

#### 31 December 2018

	Average ECL rate %	Gross carrying amount RM'000	Provision for ECL RM'000
1 to 30 days	6%	8,680	559
31 to 60 days	14%	1,291	185
61 to 90 days	29%	709	208
91 to 120 days	45%	150	68
121 to 365 days	60%	2,120	1,279
More than 365 day	100%	4,761	4,761
		17,711	7,060

In assessing the ECL, the Commission considered reasonable and supportable information at the reporting date. At the reporting date, the Commission evaluated the likelihood of the severity and impact of COVID-19 outbreak and concluded that COVID-19 would not significantly affect the estimation of expected losses of financial assets. Accordingly, the methods, assumptions and information used to measure the ECL did not incorporate any forward-looking information relating to the effects of COVID-19.

The simplified ECL models adopted by the Fund as at 31 December 2019 were not designed for the current economic shocks due to COVID-19. In addition, due to the abnormal circumstances caused by COVID-19, it may take time for the Commission to detect actual changes in risk indicators for a specific receivable. In order to accelerate the reflection of changes in credit quality not yet detected at an individual receivable level, the Commission adjusts the ratings and probabilities of default on a collective basis, considering risk characteristics such as the industry or geographical location of the customers.

Whilst it is not possible to estimate the full impact of the outbreak's short-term and longer-term effects or the Government's varying efforts to combat the outbreak and support businesses, it is likely that the ECL would fluctuate significantly within the next financial year.



## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 8. Cash and cash equivalents

	2019 RM'000	2018 RM'000
Cash and bank balances	139,691	19,317
Deposits placed with licensed banks	20,540	49,659
Cash and cash equivalents	<u>160,231</u>	<u>68,976</u>

The weighted average effective interest rate and the average maturity of the deposits as at 31 December are as follows:

	Weighted average effective interest rate		Average maturity	
	2019 %	2018 %	2019 days	2018 days
Deposits placed with licensed banks	<u>2.90</u>	<u>3.10</u>	<u>2</u>	<u>3</u>

#### 9. Accumulated funds

	Note	2019 RM'000	2018 RM'000 Restated
Accumulated surplus brought forward, as previously reported		1,810,919	1,879,133
Prior year adjustment	26	-	(8,952)
Effects arising from initial adoption of:			
- MFRS 9		-	(1,716)
- MFRS 15		-	11,158
Accumulated surplus brought forward, as restated		<u>1,810,919</u>	<u>1,879,623</u>
Initial fund		60,000	60,000
Accumulated payments made to the Consolidated Fund pursuant to Section 38(3) of the Malaysian Communications and Multimedia Act 1998 (Act 589)		(1,250,000)	(1,250,000)
Surplus/(deficit) after tax			
- As previously reported		951,330	(64,659)
- Prior year adjustment	26	-	(4,045)
- As restated		<u>951,330</u>	<u>(68,704)</u>
		<u>1,572,249</u>	<u>620,919</u>

The initial fund has been utilised in the previous years to finance the working capital of the Commission.



**Notes to the financial statements**  
**For the year ended 31 December 2019 (contd.)**

**10. Contract liabilities**

	<b>2019</b>	<b>2018</b>
	<b>RM'000</b>	<b>RM'000</b>
<b>Current</b>		
<b>Spectrum fees</b>		
3G spectrum assignment fees	29,600	61,706
Apparatus assignment fees	141,411	151,119
SA 900 fees	100,887	100,887
SA 1800 fees	112,872	112,872
<b>Operating licence fees</b>		
Class licence fees	544	204
<b>Numbering assignment fees</b>		
Numbering assignment fees	17,718	17,155
<b>Courier licence fees</b>		
Courier licence fees	908	-
	403,940	443,943
<b>Non-Current</b>		
<b>Courier licence fees</b>		
Courier licence fees	60	-
<b>Spectrum fees</b>		
3G spectrum assignment fees	392,200	372,002
Apparatus assignment fees	735	761
SA 900 fees	850,529	923,264
SA 1800 fees	893,184	969,252
	2,136,708	2,265,279
<b>Total contract liabilities</b>	2,540,648	2,709,222

Contract liabilities relates to the amount of unearned income from payments ranging from 1 to 16 years (2018: 1 to 16 years) made by licensees that will only be recognised in future financial periods.

## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 11. Other payables

	2019 RM'000	2018 RM'000 Restated
Sundry payables	15,623	22,412
Accrued expenses		
- As previously reported	214,361	200,084
- Prior year adjustments	-	12,997
- As restated	214,361	213,081
GST Rebates	669,429	669,429
Total other payables	899,413	904,922
Add: lease liabilities	10,154	-
Total financial liabilities at amortised cost	909,567	904,922

#### 12. Leases

##### (a) Commission as a lessee

Set out below are the carrying amounts of right-of-use assets recognised and the movements during the period:

	Copiers RM'000	Office rental RM'000	NASMOC equipment RM'000	Total RM'000
At 1 January 2019, as previously reported	-	-	-	-
Effects of the initial adoption of MFRS 16	1,332	5,603	4,737	11,672
At 1 January 2019, restated	1,332	5,603	4,737	11,672
Additions during the financial year	71	1,018	-	1,089
Amortisation expense	(259)	(1,505)	(985)	(2,749)
At 31 December 2019	1,144	5,116	3,752	10,012

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 12. Leases (contd.)

#### (a) Commission as a lessee (contd.)

Set out below are the carrying amounts of lease liabilities recognised and the movements during the period:

	<b>2019 RM'000</b>
At 1 January 2019, as previously reported	-
Effects of initial adoption of MFRS 16	11,672
At 1 January, restated	11,672
Additions during the financial year	1,089
Accretion of interest	384
Payments	(2,991)
At 31 December	10,154
Current lease liabilities	2,461
Non-current lease liabilities	7,693

#### (b) Commission as a lessor

The Commission have entered into operating leases on its investment properties. These non-cancellable leases remaining lease terms of 3 months to 29 months (2018: 5 months to 32 months).

Future minimum rentals payable under non-cancellable operating leases at the reporting date are as follows:

	<b>2019 RM'000</b>	<b>2018 RM'000</b>
Not later than 1 year	8,266	16,867
Later than 1 year but not later than 5 years	10,718	15,435
	18,984	32,302



## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 13. Income

##### Disaggregated income information

##### Types of services

	<b>2019</b> <b>RM'000</b>	<b>2018</b> <b>RM'000</b>
Operating licence fees	125,690	126,967
Spectrum fees	960,849	857,004
Numbering assignment fees	18,360	18,637
	<b>1,104,899</b>	<b>1,002,608</b>

##### Timing of revenue recognition

The Commission recognises income over time, with the exception of income from application fees which is recognised at a point in time.

	<b>2019</b> <b>RM'000</b>	<b>2018</b> <b>RM'000</b>
Services transferred over time	1,095,993	995,580
Service transferred at a point in time	8,906	7,028
	<b>1,104,899</b>	<b>1,002,608</b>

Details of balances arising from the various income recognised versus their collections by the Commission are as follows:

##### Contract balances

##### (a) Fees receivables

Information relating to trade receivables balances arising from contracts with customers is disclosed in Note 7.

##### (b) Contract liabilities

The current portion contract liabilities balance as at 1 January 2019 of RM443.94 million was fully recognised as revenue during the year.

##### (c) Contract assets

Contract assets primarily relate to rights to consideration for operating licensees that should be recognised over the license period but have yet to be billed at the reporting date as the invoice is only issued on the anniversary date. Contract assets are transferred to receivables when the rights become unconditional. As at 31 December 2019, the Commission has contract assets of RM11.18 million (2018: RM12.10 million)

**Notes to the financial statements**  
**For the year ended 31 December 2019 (contd.)**

**14. Other income**

	<b>2019</b> <b>RM'000</b>	<b>2018</b> <b>RM'000</b>
Sundry income	1,352	15,676

**15. Employee benefit expenses**

	<b>2019</b> <b>RM'000</b>	<b>2018</b> <b>RM'000</b>
Wages, salaries and allowances	79,536	77,683
Social security costs and employee insurance	5,557	4,612
Bonus	18,117	6,989
Defined contributions plan	16,068	13,214
Other staff related expenses	7,049	7,297
	<b>126,327</b>	<b>109,795</b>

Included in the employee benefit expenses are the allowances, expenses and ex-gratia of the Commission Members amounting to RM915,838 (2018: RM601,013).

**16. Tax expense**

	<b>2019</b> <b>RM'000</b>	<b>2018</b> <b>RM'000</b>
<b>Current tax expense</b>		
Current year	37,465	30,165
Under/(over) provision in prior years	55	(1,488)
Total income tax expense	<b>37,520</b>	<b>28,677</b>

The Commission has been granted tax exemption from Year of Assessment 2000 onwards by the Ministry of Finance under Section 127(3)(b) of the Income Tax Act, 1967. The current tax expense is in respect of interest and rental income not exempted from tax.

## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 16. Tax expense (contd.)

A reconciliation of income tax expense applicable to surplus/(deficit) before tax at the statutory income tax rate to income tax expense at the effective income tax rate of the Commission is as follows:

	<b>2019</b> <b>RM'000</b>	<b>2018</b> <b>RM'000</b> <b>Restated</b>
Surplus/(deficit) before tax	988,850	(40,027)
Income tax calculated using Malaysian tax rate of 24% (2018: 24%)	237,324	(9,606)
Expenses not deductible for tax purposes	66,233	284,097
Income not subject to tax	(266,092)	(244,326)
Under/(over) provision of income tax expenses in prior years	55	(1,488)
Total income tax expense	<u>37,520</u>	<u>28,677</u>

#### 17. Audit fees

The Commission's audit fee of RM150,000 (2018: RM120,000) is recognised in the statement of income and expenditure and recognised gains and losses. The Commission also bears the audit fees of the Universal Service Provision Fund amounting to RM80,000 (2018: RM60,000), which is recognised in the said statement.

#### 18. Goods and Services Tax Rebates ("GST Rebates") expenses

This relates to the GST Rebates payable to eligible licensees in respect of the provision of prepaid cellular services to the Malaysian citizens which was announced in the Budget 2016 by the then Finance Minister. There was also an announcement made by the latter in 2017 that Malaysian prepaid cellular users will continue to enjoy GST Rebates. The Commission was then directed to pay the GST Rebates claims made by the eligible licensees. Upon clarification and approval of the Commission, the GST Rebates payable will be borne by the Commission in implementing the policy announced in the Budget 2016. In prior year, a provision was made for such rebates for 2017 and 2018 amounting to RM669,429,000.

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 19. Special projects expenses

The special projects expenses of the Commission during the year are shown below:

	<b>2019</b>	<b>2018</b>
	<b>RM'000</b>	<b>RM'000</b>
Public cellular blocking services fees*	-	64,863
Communications services	-	4,750
Corporate social responsibility programs by the then YB Minister	-	3,679
Corporate social responsibility programs by the Commission	169	15
Contribution to the Creative Content Association Malaysia	-	1,000
Reversal of contribution to the Jalur Lebar infrastructure in Terengganu	(1,000)	-
Smart community programs	(700)	(1,292)
	(1,531)	73,015

\* These claims are in dispute and currently under Arbitration at the Asian International Arbitration Centre.

### 20. Capital Commitment

	<b>2019</b>	<b>2018</b>
	<b>RM'000</b>	<b>RM'000</b>
<b>Property, plant and equipment</b>		
Authorised but not contracted for	115,568	86,935

### 21. Financial risk management objectives and policies

The Commission is exposed to financial risks arising from its operations and the use of financial instruments. The key financial risks include interest rate risk (both fair value and cash flow), liquidity risk and credit risk.

The Commission Members review and agree policies and procedures for the management of these risks, which are executed by the Chairman. The audit committee provides independent oversight to the effectiveness of the risk management process.

#### (a) Credit risk

The Commission's credit risk is primarily attributable to fees and other receivables and deposits placed with licensed banks. The maximum credit exposure on trade receivables is limited to the carrying amount of the receivables less provision for expected credit loss.

Details of expected credit loss in relation to fees and other receivables are disclosed in Note 7.



## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 21 Financial risk management objectives and policies (contd.)

##### (a) Credit risk (contd.)

Management has a credit policy in place and the exposure to credit risk is monitored on an ongoing basis. Management has taken reasonable steps to ensure that receivables that are neither past due nor impaired are stated at their realisable values. A significant portion of these receivables are major licensees that have been transacting with the Commission. The Commission uses ageing analysis to monitor the credit quality of the fees receivables. Any receivables having significant balances past due more than 365 days, which are deemed to have higher credit risk, are monitored individually.

The credit risk of the Commission's other financial assets, which comprise of cash and cash equivalents, arises from default of the counterparty, with a maximum exposure equal to the carrying amount of these financial assets.

##### (b) Liquidity risk

Liquidity risk is the risk that the Commission will not be able to meet its financial obligations as they fall due. The Commission's exposure to liquidity risk arises principally from its various payables.

The Commission maintains a level of cash and cash equivalents deemed adequate by the management to ensure, as far as possible, that it will have sufficient liquidity to meet its liabilities when they fall due.

It is not expected that the cash flows included in the maturity analysis could occur significantly earlier, or at significantly different amount.

##### *Maturity analysis*

The financial liabilities of the Commission are all due within the next 12 months from the reporting date.

##### (c) Interest rate risk

The Commission is exposed to interest rate risk on its deposits placed with licensed banks. The Commission does not transact in any interest rate swaps.

##### *Exposure to interest rate risk*

The interest rate profile of the Commission's significant interest-bearing financial instruments, based on carrying amounts as at the end of the reporting period was:

	2019 RM'000	2018 RM'000
<b>Fixed rate instruments</b>		
Financial assets		
Deposits with licensed banks		
Fixed deposits	3,297,351	2,796,471



## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 21 Financial risk management objectives and policies (contd.)

#### (c) Interest rate risk (contd.)

##### *Fair value sensitivity analysis for fixed rate instruments*

The Commission does not account for any fixed rate financial assets and liabilities at fair value through statement of income and expenditure, as their carrying values are approximated to the fair value. Any change in fair value at the end of the reporting period would not significantly affect the statement of income and expenditure.

#### (d) Fair value information

The carrying amounts of other investments, cash and cash equivalents, fees and other receivables and other payables reasonably approximate their fair values due to the relatively short term nature of these financial instruments.

Information regarding the investment properties' fair values are disclosed in Note 4.

### 22. Related parties

#### Identity of related parties

For the purposes of these financial statements, parties are considered to be related to the Commission if the Commission has the ability, directly or indirectly, to control or jointly control the party or exercise significant influence over the party in making financial and operating decisions, or vice versa, or where the Commission and the party are subject to common control. Related parties may be individuals or other entities.

Related parties also include key management personnel defined as those persons having authority and responsibility for planning, directing and controlling the activities of the Commission either directly or indirectly. The key management personnel includes all the Commission Members, and senior management of the Commission.

The Government of Malaysia ("GOM") including those entities controlled, jointly controlled or under significant influence by the GOM are considered as related parties of the Commission. All the transactions processed by the Commission for the GOM-related entities are conducted in the ordinary course of business.

Related party transactions have been entered into the normal course of business. The related party transactions of the Commission during the year are shown below:

	<b>2019</b> <b>RM'000</b>	<b>2018</b> <b>RM'000</b>
Payments made under Ministerial Direction(s) (Note a)	-	140,714
Payments made to Perbandaran Kemajuan Filem Nasional Malaysia (FINAS)	-	21,920
Payments made to Consolidated Fund pursuant to Section 38(3) Malaysian Communications and Multimedia Commission Act 1998 (Act 589)	-	50,000
Key management personnel's compensation (Note b)	4,293	5,292
	<hr/>	<hr/>



## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 22. Related parties (contd.)

##### (a) Payments made under Ministerial Direction(s)

These payments made were in the form of contribution for the following:

	<b>2019</b> <b>RM'000</b>	<b>2018</b> <b>RM'000</b>
Tablets to teachers	-	52,644
Communication devices, equipment and application	-	25,620
Awareness programs	-	21,300
Content development	-	10,900
Cybersecurity system	-	30,000
Malaysian Fintech Expo 2018	-	250
	<u>-</u>	<u>140,714</u>

##### (b) Key management personnel compensation

Compensations paid to key management personnel which forms part of the Commission's employee benefit expenses in Note 15, for the financial years ended 31 December 2019 and 31 December 2018 are as follows:

	<b>2019</b> <b>RM'000</b>	<b>2018</b> <b>RM'000</b>
Wages, salaries and allowances	3,194	3,251
Bonus	466	1,257
Defined contributions plan	633	784
	<u>4,293</u>	<u>5,292</u>

#### 23. Fund management policy

The primary objective of the Commission's fund management is to ensure that it is able to meet its liabilities as and when it falls due and to achieve its operational objectives.

The Commission manages its accumulated funds by budgeting its funding needs ahead and adjust its expenditures as required. The Commission continuously monitors its budget against actual results and identifies efficiencies in its operations.

No changes were made in the objectives, policies or processes during the years ended 31 December 2019 and 2018.

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 24. Legal proceedings

#### Nuemera (M) Sdn Bhd

The Commission discovered an incident of the leakage of subscribers' data of telecommunication companies which was made available at Lowyat.net.forum ("Data Breach") on 18 October 2017.

Following the said discovery, the Commission decided to suspend the arrangement in respect of the Public Cellular Blocking Service ("PCBS") solution and issued a letter to Nuemera dated 26 January 2018. In the said letter, the Commission highlighted its concerns in respect of the Data Breach and the Commission's stance to suspend the arrangement in respect of the PCBS solution, including the payment of fees to Nuemera under the PCBS Agreement, pending the completion of the investigation by Polis Diraja Malaysia ("PDRM") and identification of the party responsible for the breach.

Nuemera's solicitors issued a letter of demand ("LOD") dated 19 January 2018 to the Commission demanding the settlement of the outstanding payments of approximately RM57.1 million, under the PCBS Agreement and Term Sheet.

The Commission subsequently via its letter dated 9 February 2018 informed Nuemera that it did not accept Nuemera's position that the Commission is to make payment as demanded in the LOD due to Nuemera's failure to manage the PCBS Solution and the Data Breach, and the Commission is not relying on section 266 of the CMA 1998 (which is regarding the emergency provision) but is instead relying on the contractual provisions between the parties.

Nuemera thereafter filed an application at the High Court on 3 April 2018 for an interim injunction to be given in favour of Nuemera following the Commission's act of suspending the arrangement under the PCBS Agreement and Term Sheet, which was dismissed by the High Court on 3 May 2018 with costs of RM10,000 awarded to the Commission.

Nuemera then filed an appeal via notice dated 4 May 2018 at the Court of Appeal against the High Court's decision but was later withdrawn by Nuemera on 17 July 2019 with costs of RM20,000 awarded to the Commission.

Nuemera had also served the Commission with a Notice of Arbitration dated 27 February 2018 ("NOA") to resolve the dispute with regards to the outstanding payment. The arbitration was put on hold pending the conclusion of the governance process as required under the PCBS Agreement. As the governance process was not successful to resolve the dispute between the Commission and Nuemera, the NOA was 'revived' and the Commission has responded to Nuemera's NOA by filing its response on 14 August 2018 with the Asian International Arbitration Centre (KL).

In respect of the arbitration, Nuemera had filed an application for Interim Order for Payment before the arbitral tribunal on 1 November 2019 to obtain the outstanding amount of payment pending arbitration decision.

On 31 January 2020, the arbitral tribunal dismissed the application and awarded costs in the amount of RM30,000 to the Commission.

Both parties served the Statement of Agreed Facts, Schedule of Presentation of Witnesses and Written Opening Statement to the Asian International Arbitration Centre (KL) on 14 February 2020.

## Notes to the financial statements

### For the year ended 31 December 2019 (contd.)

#### 24. Legal proceedings (contd.)

##### Nuemera (M) Sdn Bhd (contd.)

During the hearing dates on 24 to 27 February 2020 and 2 to 5 March 2020, Nuemera's witnesses had been duly examined by both parties. The next hearing dates would mainly be for the Commission's witnesses to be examined.

The next hearing dates which were initially fixed by the arbitral tribunal are on 7 to 9 July 2020 and 14 to 16 July 2020, has been postponed due to the movement control order. The next hearing of the arbitration will be held on 10 to 11 December 2020 and 14 to 18 December 2020.

As of the reporting date, the Commission has accrued for the cost of services received, pending outcome of the NOA.

#### 25. Events subsequent to the financial year

The COVID-19 pandemic has significantly disrupted many business operations around the world. For the Commission, the impact on its operations has not been a direct consequence of the COVID-19 outbreak, but a result of the measures taken by the Government of Malaysia to contain it. As the outbreak continues to evolve, it is challenging to predict the full extent and duration of its impact on businesses and the economy. The occurrence of the COVID-19 outbreak is not an adjusting post balance sheet event.

At this juncture, it is not possible to estimate the full impact of the outbreak's short-term and longer-term effects or the Government's varying efforts to combat the outbreak and support businesses. This being the case, as disclosed in Note 7, the Commission noted a significant risk that the assumptions applied in the ECL would need to be revised in the next financial year which may result in a material adjustment to the carrying amounts of the ECL, within the next financial year.

The Commission will continue to monitor the development of these events and implement appropriate measures to mitigate the impact from the pandemic.

#### 26. Prior year adjustment

Subsequent to the financial year, the Commission received additional notice from the tax authority relating to its tax position for basis years 2015 and 2017. The information indicated additional tax liabilities of RM8.95 million and RM4.05 million respectively. The Commission reviewed the information and considered it appropriate to account for it retrospectively.

## Notes to the financial statements For the year ended 31 December 2019 (contd.)

### 26. Prior year adjustment (contd.)

The financial impact arising from the above are as follows:

	<b>1 January 2018</b>		
	<b>As previously reported RM'000</b>	<b>Increase/ (decrease) RM'000</b>	<b>As restated RM'000</b>
<b><u>Statement of financial position</u></b>			
Accumulated funds	748,575	(8,952)	739,623
Other payables	298,128	8,952	307,080
	<b>31 December 2018</b>		
	<b>As previously reported RM'000</b>	<b>Increase/ (decrease) RM'000</b>	<b>As restated RM'000</b>
<b><u>Statement of financial position</u></b>			
Accumulated funds	633,916	(12,997)	620,919
Other payables	891,925	12,997	904,922
<b><u>Statements of income and expenditure and recognised gains and losses</u></b>			
Administrative expenses	83,493	4,045	87,538
Deficit after tax representing total recognised losses	64,659	4,045	68,704
<b><u>Statement of cash flows</u></b>			
<b><u>Cash flow from operating activities</u></b>			
Deficit before tax	35,982	4,045	40,027
Changes in working capital:			
Other payables and accrued expenses	593,408	4,045	597,453



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**Suruhanjaya Komunikasi dan Multimedia Malaysia**

**Malaysian Communications and Multimedia Commission**

MCMC Tower 1, Jalan IMPACT, 63000 Cyberjaya, Selangor

**Tel** +603 8688 8000   **Fax** +603 8688 1000   **Email** [scird@mcmc.gov.my](mailto:scird@mcmc.gov.my)