



**OPTIMISING
RESOURCES**

ANNUAL REPORT
2016



MCMC AT A GLANCE

PENETRATION RATE

Broadband

81.5

per 100 households

2015: 77.3

Mobile Cellular

141.3

per 100 inhabitants

2015: 143.8

Fixed Telephone

14.6

per 100 inhabitants

2015: 14.6

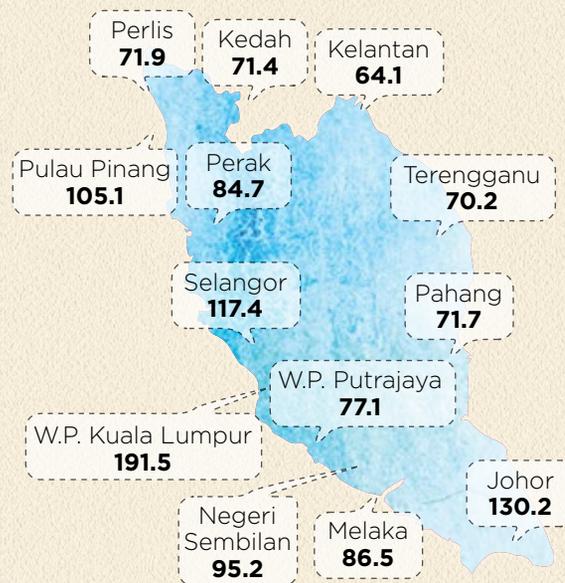
Pay TV

79.0

per 100 households

2015: 73.2

BROADBAND PENETRATION RATE



MOBILE CELLULAR

9.6

MILLION

postpaid subscriptions

2015: 8.7 million

34.3

MILLION

prepaid subscriptions

2015: 35.4 million

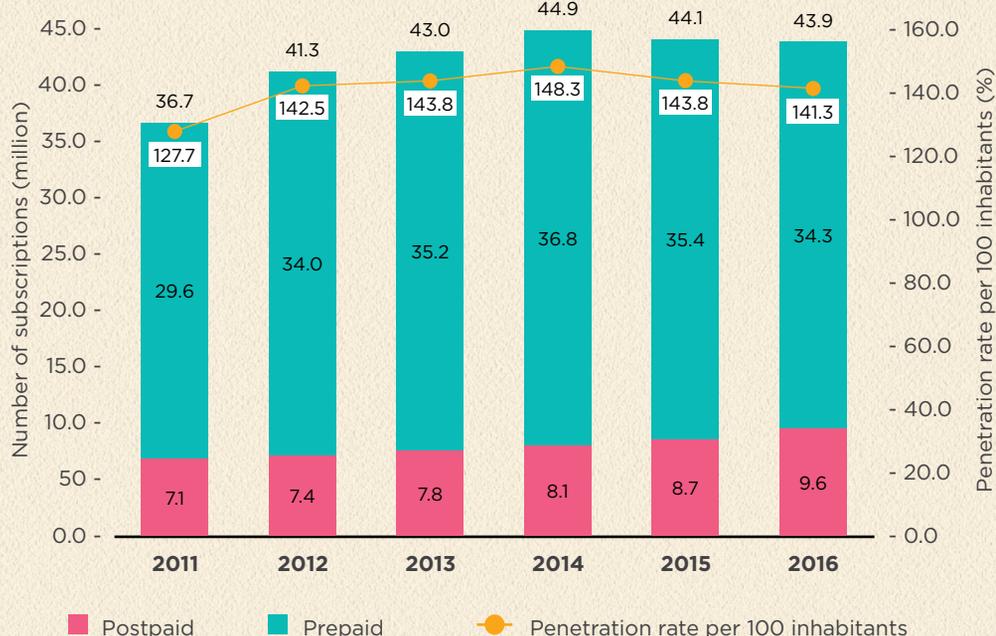
3,036

MILLION

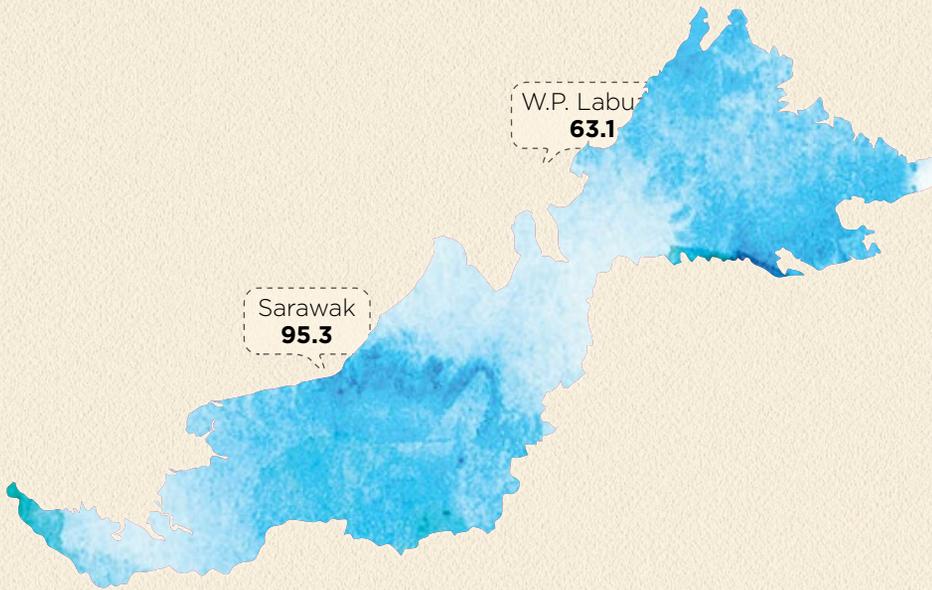
SMS sent

2015: 5,200 million

Subscriptions and Penetration Rate



PER 100 INHABITANTS BY STATES (%)



BROADBAND

2.5
MILLION

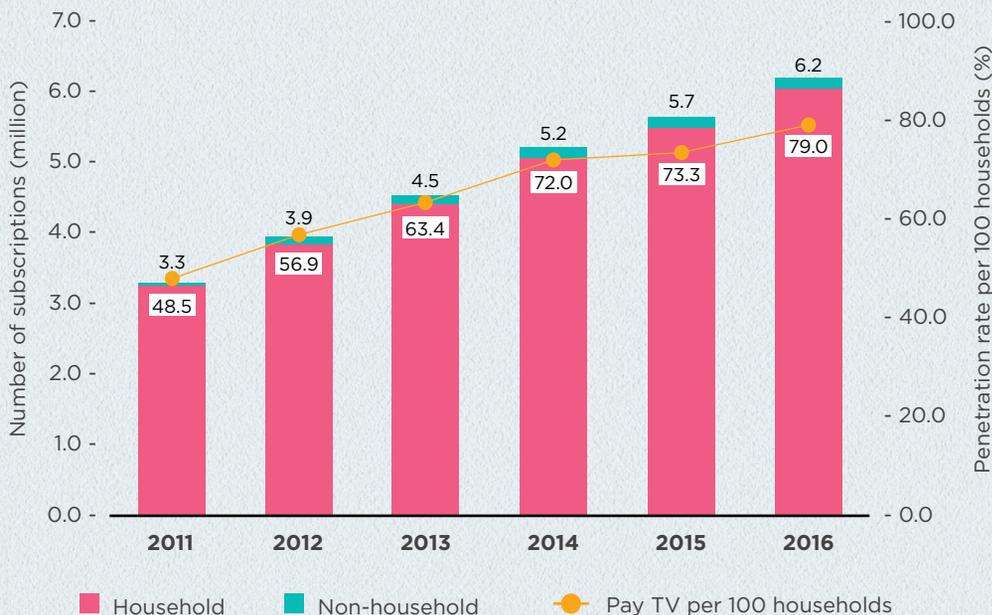
fixed broadband
subscriptions
2015: 3.1 million

28.5
MILLION

mobile broadband
subscriptions
2015: 27.8 million

PAY TV

Subscriptions and Penetration Rate



POPULATION & HOUSEHOLD

Population

31.07
MILLION

2015: 30.68 million

Household

7.60
MILLION

2015: 7.48 million

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S e c t i o n

01



: WHO WE ARE

10

National Policy Objectives for Communications and Multimedia in Malaysia

1 

To establish Malaysia as a major global centre and hub for communications and multimedia information and content services.

2 

To promote a civil society whereby information-based services will provide the basis of continuing enhancements towards the quality of work and life.

3 

To grow and nurture local information resources and cultural representation that facilitate the national identity and global diversity.

4 

To regulate for the long-term benefit of the end users.

5 

To promote a high level of consumer confidence in service delivery from the industry.

6 

To ensure an equitable provision of affordable services over ubiquitous national infrastructure.

7 

To create a robust applications environment for end users.

8 

To facilitate an efficient allocation of resources such as skilled labour, capital, knowledge and national assets.

9 

To promote the development of capabilities and skills within Malaysia's convergence industries.

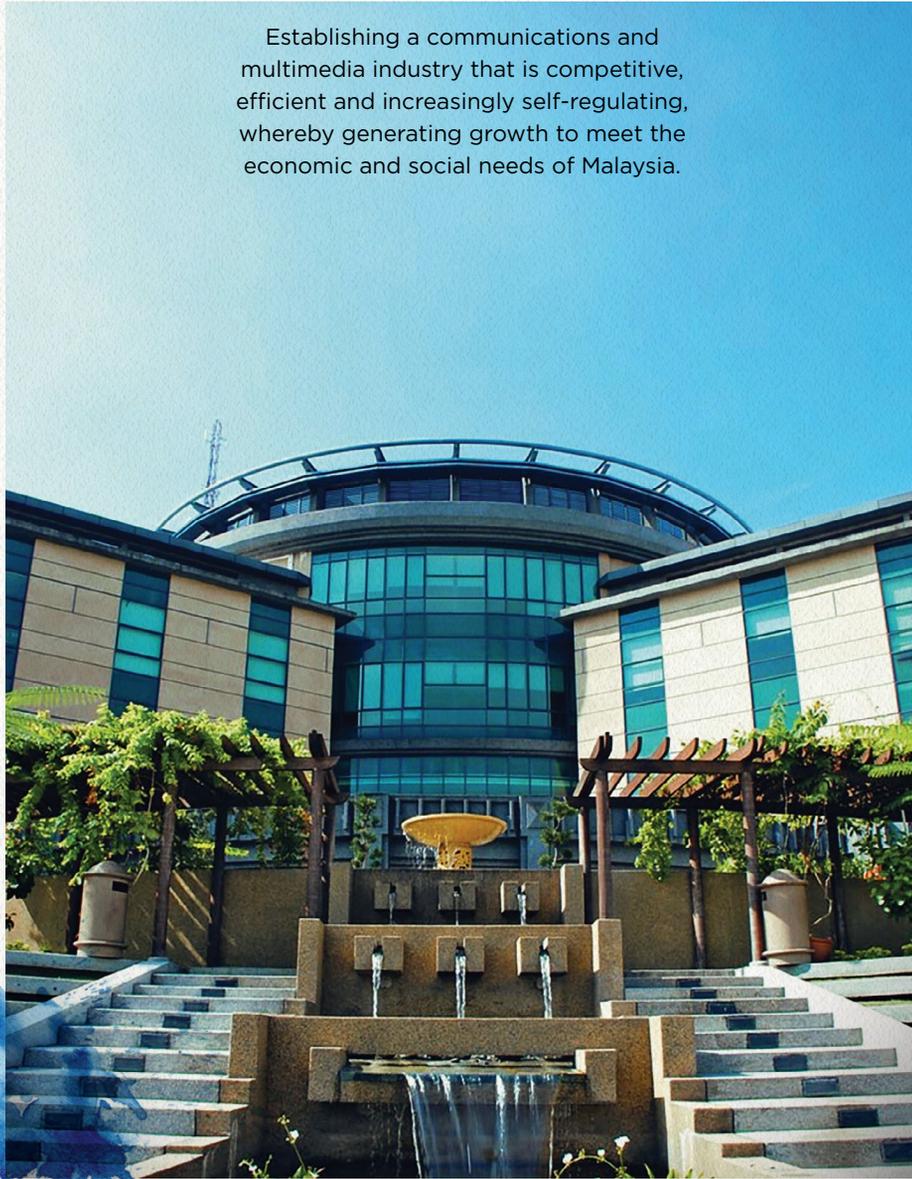
10 

To ensure information security and network reliability and integrity.

VISION



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



MISSION



We are committed to:

- i. Promoting access to communications and multimedia services.
- ii. Ensuring consumers enjoy the choice and a satisfactory level of services at affordable prices.
- iii. Providing transparent regulatory processes to facilitate fair competition and efficiency in the industry.
- iv. Ensuring the best use of spectrum and number resources.
- v. Consulting regularly with consumers and service providers and facilitating industry collaboration.

MINISTER'S MESSAGE



**DATUK SERI DR.
SALLEH SAID KERUAK**

*Minister of
Communications and
Multimedia*

If in the past, many would communicate using voice calls and SMS, a majority of people these days however, are more inclined to use applications such as WhatsApp and Telegram. These changes are simple examples that show how people in this country are in the midst of an evolutionary process to transform into a fully digitised country which is built upon the broadband.

Changes that are taking place within a short span of time is seen as a challenge by the Government, as it has to fulfil the needs of the people who increasingly demand high speed internet access, yet made available at an affordable price. Though this may be challenging, the Government, led by YAB Dato' Sri Mohd Najib Tun Abdul Razak has promised to continue its efforts in the interest of the people.

2016 saw the Government, through the Malaysian Communications and Multimedia Commission (MCMC) directing its focus on building new telecommunication towers in addition to upgrading existing ones. The nation's broadband capacity was also enhanced with the execution of the submarine fibre optic cable project, laying the foundation for the provision of bandwidth at 4 terabytes per second. Known as 1Malaysia People's Cable System (SKRIM), the project is expected to be completed in 2017.

The reallocation of spectrum to telecommunication companies had begun this year and is expected to be completed by mid-2017. The allocation of one of the country's most valuable resources is seen as an effort towards optimising the spectrum. Through the allocation, the Government is hopeful that their quality of service will be better and more efficient, whereby the advantages will be savoured by the people.

It is also my wish to see MCMC take sterner action in enforcing the Communications and Multimedia Act 1998, so as to protect users of the telecommunications and multimedia services in the country from negative elements such as online scams or defamation.

I am sure there are many more endeavours and activities which were carried out by MCMC in the areas of law enforcement, bridging the digital divide and developing the country's telecommunications and multimedia industry that are included in this report.

In conclusion, I hope that every effort undertaken by the Government, specifically by MCMC, would continue to enjoy success and be of benefit to the people.



**DATO' SRI DR.
HALIM SHAFIE**

*Chairman of Malaysian
Communications and
Multimedia Commission
(MCMC)*

Highlight on Achievements Throughout 2016

It gives me great pleasure to report that the Strategic Plan 2016-2020 which was drafted and reported last year, had been vigorously implemented in 2016. The Plan outlines seven core thrusts to spur development and regulations within the ambit of networking and infrastructure, human capital development, community and customer, network security, content and applications, ASEAN harmonisation and enabling platforms. The report this year is based on the execution of these seven thrusts in an extensively challenging environment which compelled us to optimise existing resources.

Achievements

In this digital era, network enhancements and broadband infrastructure development continue to be carried out to ensure the country is not lagging behind. Plans to augment the nation's broadband capacity continues and is expected to materialise in 2017 with the launch of 1Malaysia People's Cable System (SKR1M). This submarine fibre optic project is able to provide bandwidth capacity of 4 terabytes per second in connecting Peninsular Malaysia, Sabah and Sarawak. In the meantime, the process of allocating the 900MHz and 1800MHz spectrums are progressing according to schedule and are expected to be completed by mid-2017.

Among MCMC's gratifying achievements in the area of networking and infrastructure in 2016 was the addition of 101 new 1Malaysia Internet Centres (PIIM) from 657 centres which are situated all over the country for the convenience of local residents. The accretion would allow more rural folk access to the Internet, and hence, enabling them to engage in the rapidly expanding digital economy. By virtue of training and guidance given through organised courses, PIIM succeeded in producing many internet entrepreneurs.

PIIM also played a vital role this year in MCMC's initiative of building a Smart Community in Kemaman, Terengganu and Kota Belud, Sabah. The Smart Community is one of MCMC's attempt to propel the country towards becoming a smart nation in line with the vision of Smart Communities at the ASEAN level, themed 'Transforming ASEAN: Moving Towards Smart Communities'.

In performing its responsibility to ensure users of communications and multimedia services are duly protected and obtain good service, MCMC has implemented the Integrated Complaints Management System (ICMS). ICMS was developed in 2015 and began operating in November 2016 as part of MCMC's Consumer Empowerment Plan (CEP) 2013-2016. The system is able to record and produce accurate reports on the total number of complaints received by MCMC.

CHAIRMAN'S LETTER

The issue regarding increased number of gambling SMS in late 2015 was also handled by MCMC with the cooperation of telecommunications companies, in which they agreed to activate Anti-spam Filtering in their respective SMS system. Active and consistent monitoring was conducted in the fourth quarter of 2016 saw a sharp decline of the problem.

There was also a drop in cases involving cyber security that were monitored and reported to MCMC in 2016. The number of incidents were reduced to 5,299 cases as compared to 8,421 cases in 2015. This was the result of various initiatives and enhancements undertaken by MCMC's Network Security Centre in carrying out surveillance, monitoring, prevention as well as issuing early warnings regarding cyber threats to network system operators in Malaysia.

Challenges

The biggest challenge and obstacle faced by MCMC in 2016 was enforcing the Communications and Multimedia Act 1998 relating to false information in the registration of prepaid SIM cards. Among the causes of setbacks in investigations were due to complainants' reluctance to cooperate by refusing to come forth to record their statements or declining to hand over mobile phones for forensic analyses.

Apart from that, offences under Section 233 CMA 1998 with regards to social media registered the highest figure at 69.6 percent of the total number of complaints received by MCMC. This continues to be a challenge for MCMC in reinforcing its advocacy programme, particularly Click Wisely (Klik Dengan Bijak).



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Human Capital

To ascertain that MCMC is able to face changes and challenges in the communications and multimedia industry, we also directed our focus towards strengthening our human capital. To this end, this year, we persevered in our quest of streamlining our operations on the back of an extensive restructuring exercise in the previous year.

MCMC's collaboration with GSMA and Multimedia University (MMU) continued its momentum this year with two training sessions for the Converged Telecommunications Policy and Regulations (CTPR) Master Class programme which was conducted in August and November 2016 in Cyberjaya and Bandung, Indonesia, respectively. The Master Class programme is not confined to staff of MCMC alone, but also for those involved in the communications and multimedia industry.

Appreciation

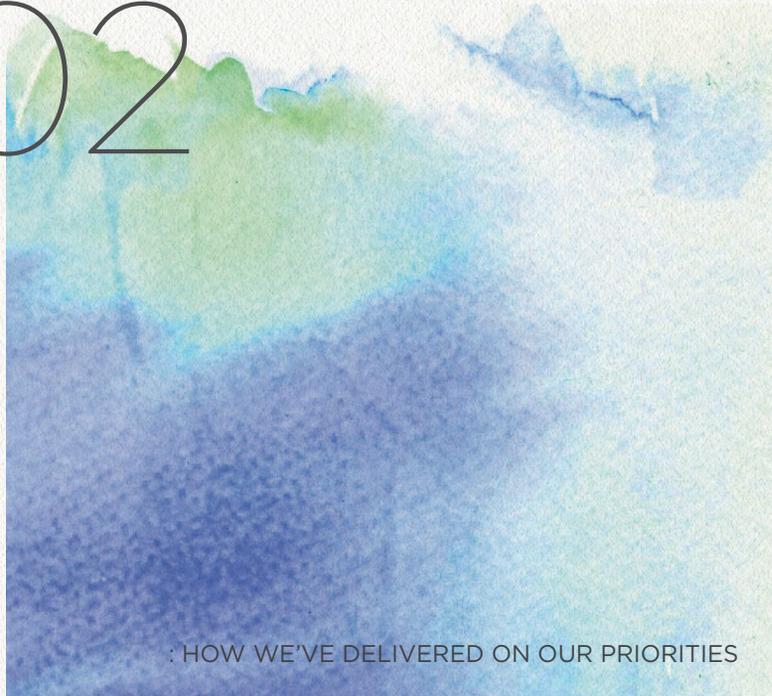
Lastly, I would like to express my utmost appreciation to all stakeholders, be it the Minister, the Ministry, the industry and members of the Commission for the support they have given all this while. My gratitude also goes to the entire staff of MCMC for the backing and dedication that they have shown throughout 2016.

Dato' Sri Dr. Halim Shafie

Chairman
Malaysian Communications and Multimedia Commission
(MCMC)

Section

02



: HOW WE'VE DELIVERED ON OUR PRIORITIES

INFRASTRUCTURE

BROADBAND

COMMUNICATIONS INFRASTRUCTURE, THE CATALYST TOWARDS THE COUNTRY'S PROGRESS

Cognizant of the astounding evolution in communications technology and the skyrocketing demand for broadband, be it in the city or in the rural areas, MCMC, along with the Ministry, have set in motion a variety of communications infrastructure initiatives which will be of benefit to the people, whilst being the backbone of the country's economic development.

Among the endeavours are the 1Malaysia People's Cable System (SKR1M), Fixed Line Broadband extension, Cellular and Mobile Broadband Coverage Expansion, as well as 1Malaysia Internet Centre.

Fixed Line Broadband

The High Speed Broadband project supports broadband speed to the extent of 100Mbps throughout the state capitals and major cities in the country, whereas the Suburban Broadband project provides a broadband speed of up to 20Mbps within the suburbs and rural areas. These initiatives are in accordance with the Government's aspiration of setting up a more comprehensive broadband facility, including widening it to the rural areas under the Rural Broadband (RBB) project.

Moreover, in upgrading the nation's broadband capacity, a submarine fibre optic cable project generating a bandwidth capacity of 4Tbps which links Peninsular Malaysia, Sabah and Sarawak at an estimated distance of 3,800 kilometres is being actualised. The project, labelled 1Malaysia People's Cable System or better known by its acronym SKR1M, is expected to be fully completed by 2017.

Total Connectivity through the Broadband and SKR1M Expansion Projects

Projects	Completed Connectivity
High Speed Broadband	2.23 million ports
Suburban Broadband	219 thousand ports
Rural Broadband	16 thousand ports
1Malaysia People's Cable System	2,810 kilometres



1Malaysia People's Cable System

Mobile Broadband

The broadband technology is also rapidly evolving. This situation has broadened the digital divide between the urban and the rural areas, thus, making it more obviously felt. The demand for mobile broadband in rural areas is on the rise following changes in the way local communities communicate. The Short Messaging Service or SMS which was popular a while back, has now been replaced with social message applications which uses the latest and most sophisticated mobile devices.

In order to cater to the demand for mobile broadband in the rural areas, attention has been directed towards building new communication towers besides upgrading the ones that already exist so as to render mobile broadband service to 3G network coverage.

The communication towers that are being built are centred around underserved vicinity, particularly in the rural areas. The building of these communication towers had posed its own set of challenges for MCMC's officers. Anchored by strong will, they ploughed through jungles, ascended hills and mountains, as well as having to endure long journeys to reach the rural areas, just to ascertain the success of this initiative.

Total Connectivity through Mobile Broadband Expansion

Projects	Completed Connectivity
Mobile Broadband Coverage Expansion	3,452 locations



Communications Tower

Commercial Development

MCMC was also tasked with coordinating the development of commercial networks, specifically in delivering service coverage to high impact sectors like industrial areas, federal and state administrative territories, as well as common strategic areas such as airports and the Malaysian highway network.

Aside from network development, communications infrastructure guidelines and other referral guidelines, for instance the planning guidelines, were also developed and drawn up as MCMC formed strategic cooperation with the Federal Department of Town and Country Planning as well as other agencies at the federal and state levels.

Community Access

As is generally known, knowledge of information and communications technology (ICT) is vitally important in today's life. Hence, MCMC had taken the approach of realising the 1Malaysia Internet Centre (PIIM) initiative in rural areas, including for the underserved faction in the cities.

Projects	Completed Connectivity
1Malaysia Internet Centre	758 internet centres



PIIM

INFRASTRUCTURE

SMART COMMUNITY

A SMART COMMUNITY IS THE BEDROCK IN DEVELOPING A SMART NATION

The Smart Community is an initiative rooted in the concept of building blocks with a focus on developing and achieving the vision of a smart nation. In moving forward towards the aim of becoming a smart nation, the rural community in Malaysia has to be empowered and be given exposure, as well as sustainable knowledge which are complemented by adequate ICT facilities.

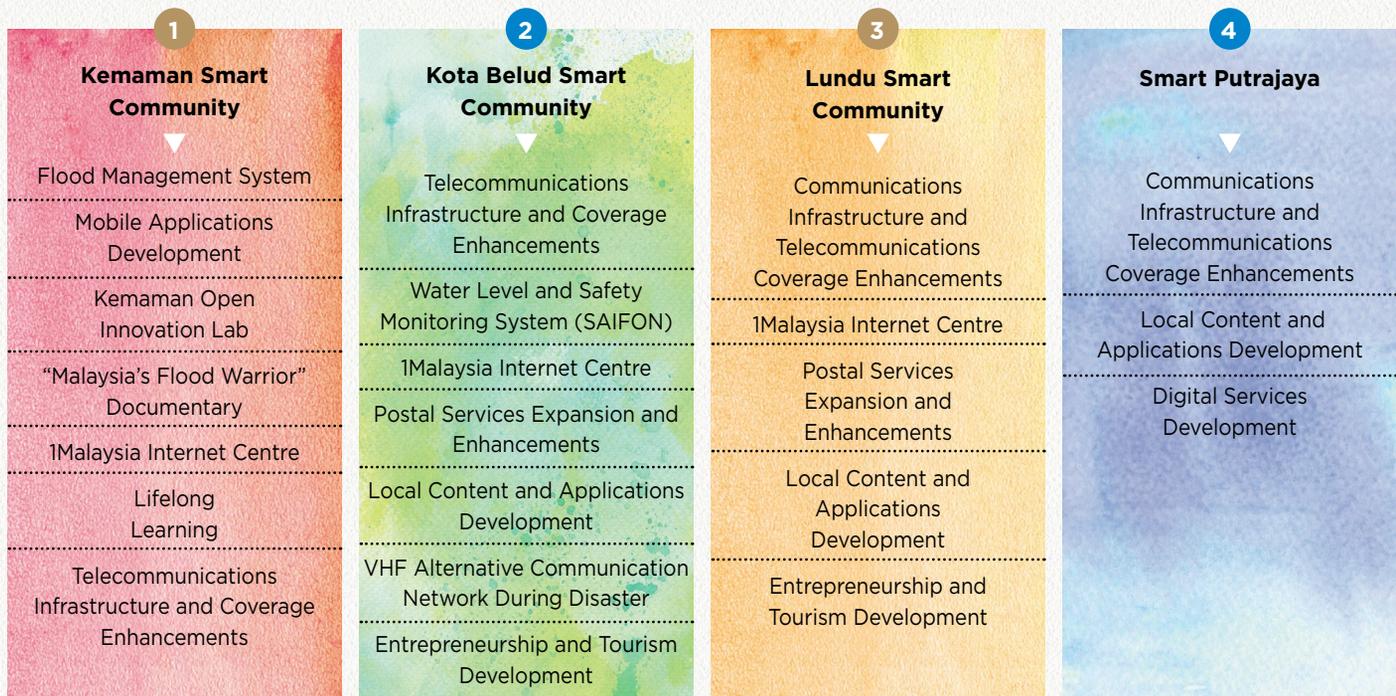
Spearheaded by the Malaysian Communications and Multimedia Commission (MCMC), the Smart Community initiative is the result of merging existing and new programmes that are developed in keeping with the vision of a Smart Community at the ASEAN level by encapsulating the theme 'Transforming ASEAN: Moving Towards Smart Communities'.

BRIDGING THE DIGITAL DIVIDE AND MAXIMISING THE EFFECTIVENESS AMONG THE SOCIETY

In this borderless world, Internet plays a crucial role in economic activities, aside from bolstering interactive relations between the people and fellow leaders. Therefore, the Smart Community's focal point is not just towards the development of communications infrastructure but it is also places importance on community involvement pertaining to the plans and implementation of strategic initiatives as mentioned above, which are emphasised and designed to fulfil the needs of local communities in intensifying the utilisation of ICT.

Smart Community's Main Programme

2016 saw MCMC marching ahead in executing the Smart Community initiatives which are characterised by seven (7) Main Principles in the new districts, namely Kota Belud (Sabah), Lundu (Sarawak) and the Federal Territory of Putrajaya, besides pursuing the implementation of its main programme in Kemaman, Terengganu.



Infrastructure Enhancements and Expansion of Broadband Coverage

MCMC is at the forefront of the Smart Community initiative which focuses on the effort of upgrading the infrastructure and handling issues regarding the quality of communications services. MCMC had targeted a 100 percent long term evolution (LTE) coverage throughout major cities under the Smart Community Initiative, and to date, the boost in 3G and LTE coverage is omnipresent in all Smart Communities, especially in the district of Kemaman and the Federal Territory of Putrajaya.

Increase in Communications Coverage in Each Smart Community

Smart Community	Coverage	Before the Implementation of Smart Community (%)		Till Quarter 4 2016 (%)	
		Smart Community (%)	Target (%)	2016 (%)	Increase (%)
Kemaman	3G	89	95	93.3	+4.3
	LTE	8.4	100	100	+91.6
Kota Belud	3G	73.5	90	76.9	+3.4
	LTE	6.1	100	100	+ 93.9
Lundu	3G	45.1	90	55.6	+10.5
	LTE	5.9	100	100	+94.1
Putrajaya	3G	100	100	100	=
	LTE	78	100	100	+22

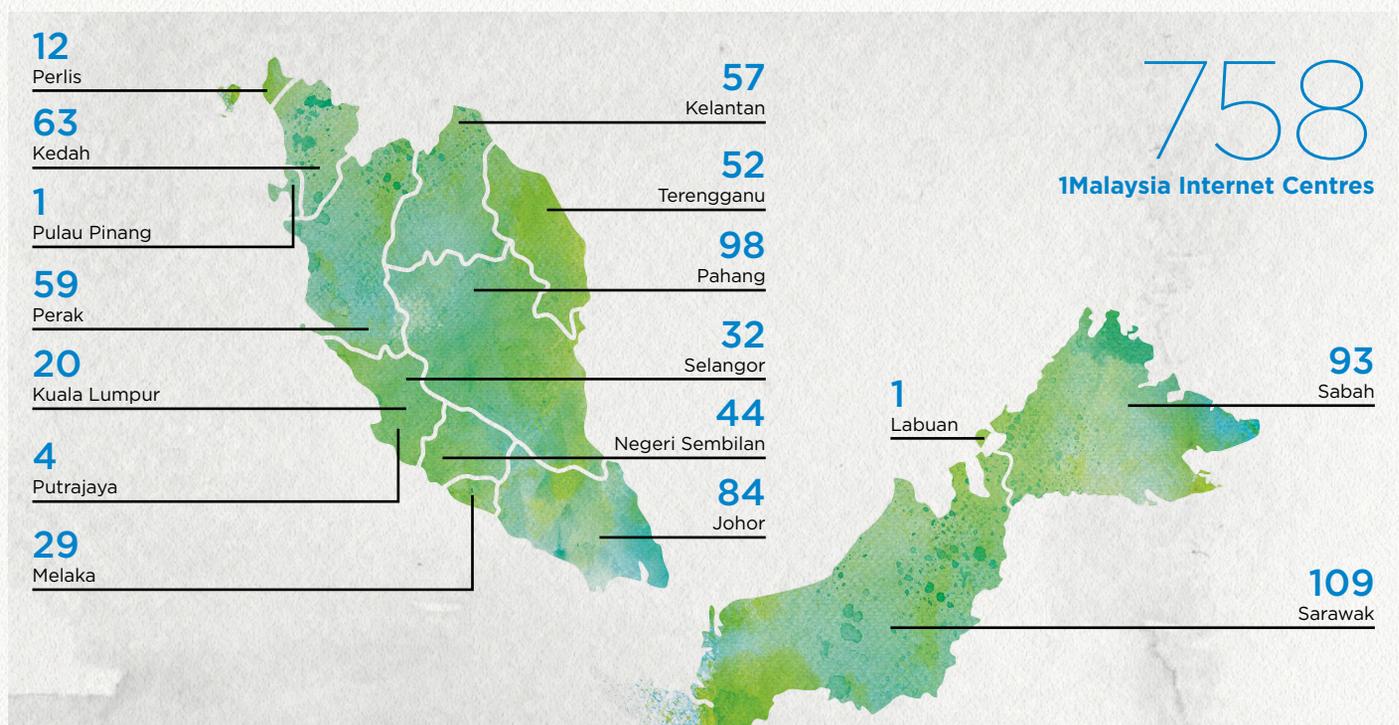
Progress of Fixed Line Broadband Coverage in Each Smart Community

Smart Community	Projects	Total No. of Ports	Port Usage
Kemaman	HSBB	5,576	1,226
Putrajaya	HSBB	22,752	11,570
Kota Belud	SUBB	648	77
Lundu	SUBB	448	27

1Malaysia Internet Centre: The Platform for Digital Inclusion

To strengthen infrastructure development and in providing internet convenience especially to areas that lacked coverage, 758 1Malaysia Internet Centres (PIIM) were established nationwide through the Universal Service Provision (USP). The aim in actualising PIIM is intended towards connecting innovation, digital inclusion and entrepreneurship. To this end, the focus in PIIM's content have been upgraded; inclined towards accommodating more services and support so as to cater to various target groups, based on the following six fundamentals:

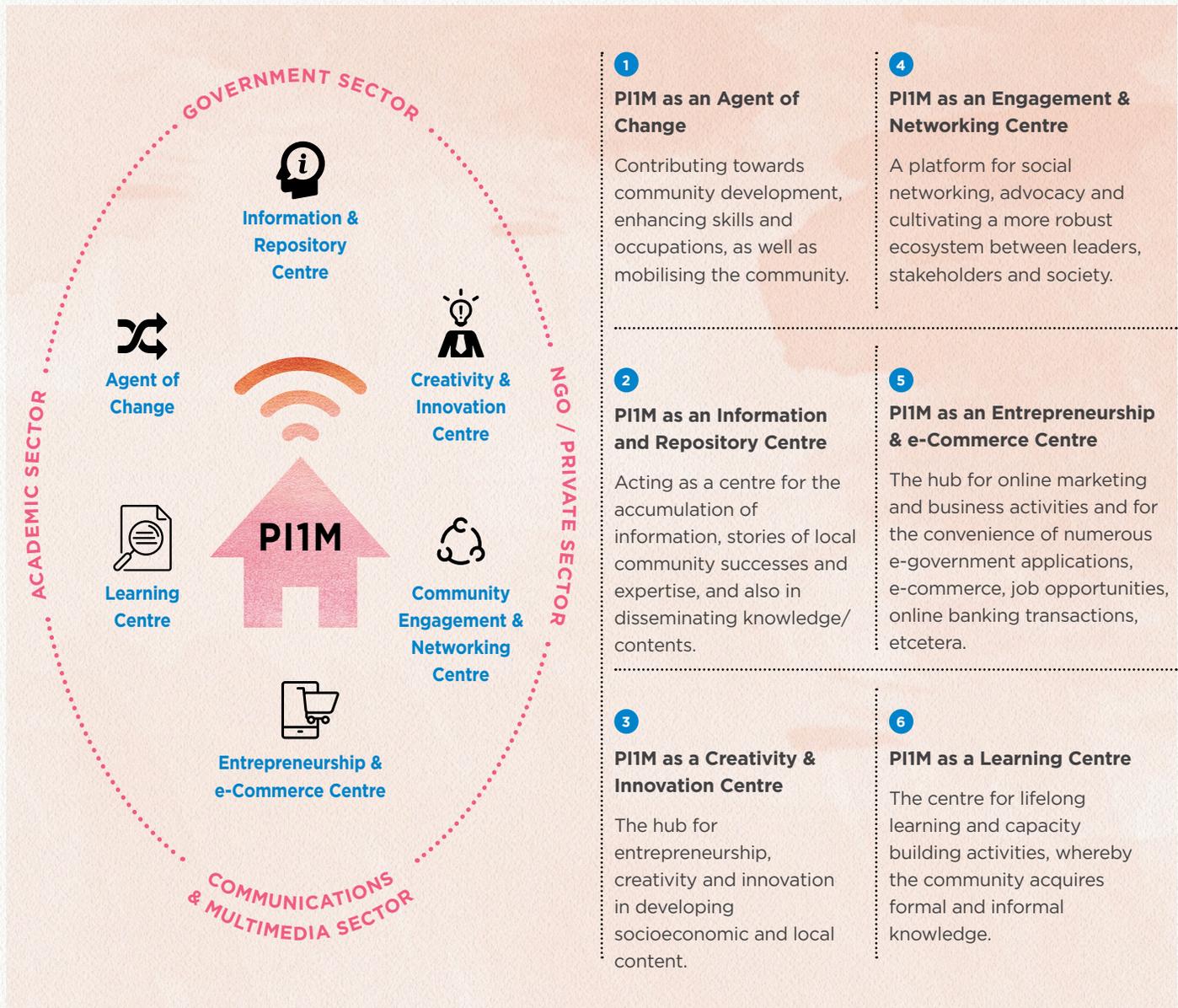
Statistical Map on the total number PIIMs built by states throughout Malaysia



INFRASTRUCTURE

SMART COMMUNITY

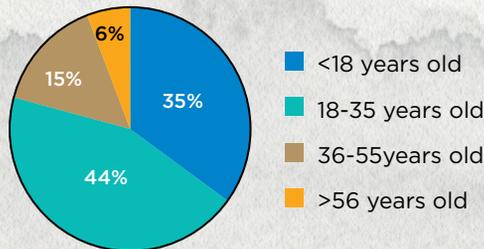
6 Fundamental functions of PI1M



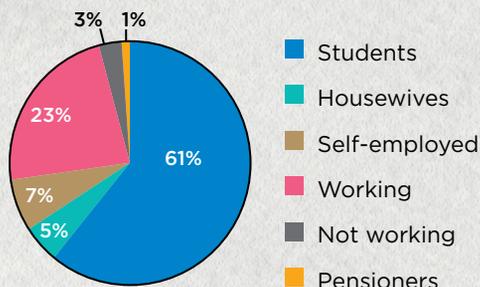
In tandem with the rise in the total number of PI1M all over the country, local community engagements in every activity held at PI1M along with their support have also surged.

The roles and contributions of 1Malaysia Internet Centre (PI1M) have far exceeded expectations. Clearly, in terms of achievements, acceptance and its effectiveness since the materialisation of the initiative in 2007, it has exhibited transformation in numerous aspects of life within PI1M's targeted group. This is by virtue of PI1M's ability to play a crucial role in advancing educational, spiritual, economic and social aspects of the rural communities.

PIIM's Members Statistics



PIIM's members statistics by age



PIIM's members statistics by occupation



PIIM's members statistics by gender

Total Number of PIIM's Members

501,287

Melaka	12,077
Johor	61,592
Negeri Sembilan	30,664
Pahang	59,563
Perak	30,517
Kedah	52,429
Kelantan	40,824
Perlis	9,791
Terengganu	30,866
WP Kuala Lumpur	6,683
Pulau Pinang	249
Sabah	63,927
Sarawak	73,798
Selangor	24,846
WP Putrajaya	3,144
WP Labuan	317

PIIM's members statistics by states

As a result, since January 2016, the tutelage had brought forth 2,003 online entrepreneurs who are using the social media platform. Through joint action with MDEC, an e-Entrepreneur workshop known as '#YouCanDuit' programme was conducted at selected PIIMs which saw the participation of almost 750 local entrepreneurs. Based on the feedbacks received from the trained entrepreneurs, they generally became conscious of the potency of the social media in generating positive impact in marketing their merchandise, whilst rising their income.



Originally, my customers merely consist of friends and the surrounding community. However, after using the social media such as blog sites and WhatsApp, demands for my product began increasing and the market had broaden to other regions, to the peninsular and overseas, like Laos. Before, my income was just RM80, after using the social media, my income now has reached three-figure. I received advise and training from PIIM Telipot in creating my blog site and marketing my products online, as well as the right way in managing my finances."

Pn. Eriy Dusun, a Tuahau or wild ginger entrepreneur and one of the successful entrepreneurs from PIIM Putera Jaya, Telipok, Sabah.

Developing Online Entrepreneurs

PIIM is the nexus for training and learning the Internet, including information and communications technology (ICT) which caters to people from all walks of life, from primary school students to senior citizens.

What is most interesting is that it has also become an avenue for the rural population to venture into the field of online entrepreneurship. Supported by PIIM, they are guided on the means of promoting their businesses and conducting transactions using the Internet. In addition, they are also educated on the fundamentals of ICT and multimedia which would equip them with the skills to contrive more compelling promotional materials.

INFRASTRUCTURE

SMART COMMUNITY

Lifelong Learning

The ICT platform is leveraged in Lifelong Learning to increase the knowledge of the community by utilising the learning modules provided. This programme has been designed under the Smart Community Initiative, which sees the following four modules being implemented:

I. Information Literacy Module (ICT and Multimedia)

A. Interactive Learning

By means of MCMC's collaboration with Open University Malaysia (OUM), this initiative has opened the door to the public in pursuing a variety of online courses for free. The interactive online learning adopts specifically customised modules, e.g. Entrepreneurship, Islamic Studies, English Proficiency and Early Childhood Education. Around 300 candidates comprising of staff from government agencies and PI1M community had enrolled for the programme.

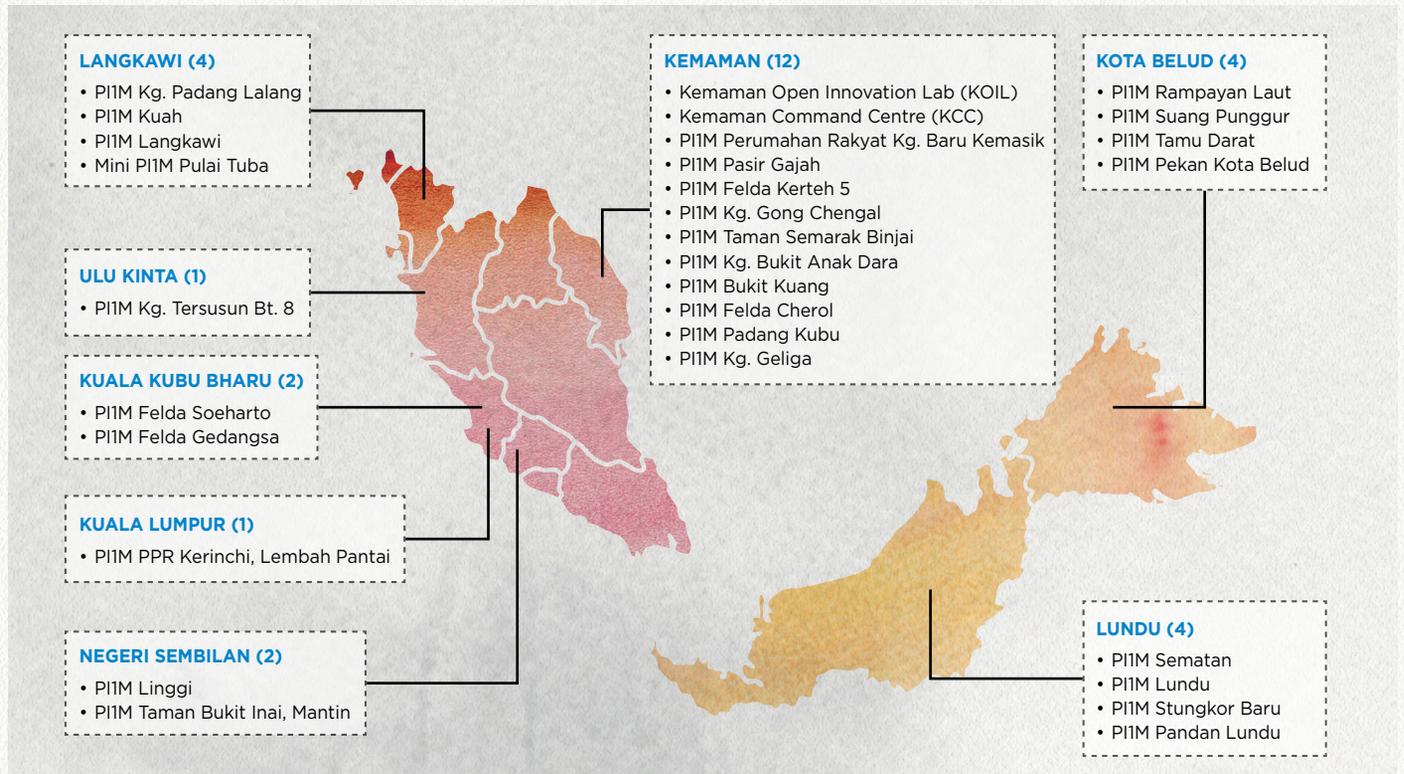
15 online Interactive Learning Modules provided through the collaboration with OUM



B. E-Magazine Web Application

Cooperation was also forged between MCMC and the National Library of Malaysia (NLM) to allow for complimentary online access into over 1,500 magazines, including, among which are international best-selling publications such as Newsweek, Businessweek, Reader's Digest, PC World, Popular Science, and others. The First Phase of this alliance which began in October 2016 saw the E-Magazine web application made available in 34 PI1Ms.

A map of PIIMs that are provided with the E-Magazine web application



II. u-Pustaka Module

This module presents the undertakings of a consortium, u-Pustaka, which is composed of eight libraries aimed at elevating and stimulating interest in reading by conducting tutorials on how to use portals and mobile applications. Books are also loaned out to the Malaysian public via access to the u-Pustaka portal.

III. Community of Common Interest Module

By exploiting the realm of Smart Community, a 'Programming and Problem Solving' workshop was organised by University of Malaya and the Terengganu Public Library Corporation in alliance with University of Technology, Malaysia. Attended by 19 students from four schools in Kemaman, the

programme proceeded and centred on solving communal problems by means of ICT, with specific inclination towards robotic application in sensing water level to prevent flood disaster.

IV. ICT Module

A. Developing Digital Magazines

Facilitated by joint efforts between MCMC, Kemaman District Education Office, National Book Council of Malaysia (MBKM) and Xentral Methods Sdn Bhd, the attempt at developing digital magazines were actualised using the digital platform. The task clearly fuels and inspires creative prowess, tremendous innovation and profound interest in leading edge information and

communications technology among students and teachers. Moreover, it offers students a broader choice in accessing the internet for learning purposes.

B. Learning based on Science, Technology, Engineering and Mathematics (STEM)

This initiative was set forth to stir and inculcate community interest whilst reinforcing competitiveness within the realm of technological development, whereby conforming to the current national education policy as well as advocating inventions and innovations using state-of-the-art technology in various socioeconomic aspects.

INFRASTRUCTURE

SMART COMMUNITY

i. Robotics and Drone Applications Development Workshop

Workshops on Robotics and Drone Applications Development were held for the Kota Belud and Kemaman Smart Communities on 13-14 May 2016 and 21-22 October 2016, respectively, attracting the participation of students from schools and their teachers, students of higher learning institutions and lecturers, youth clubs, as well as PI1M managers and assistant managers. At the end of each workshop, a total of 10 robotics and 10 drone applications were realised.

The approach adopted in these workshops were found to be intriguing by the community, especially for youths and school students in applying creativity and expanding their knowledge in the sphere of ICT, digital and Internet of Things (IoT).

ii. Applications and LEGO Workshop (BAL)

Initiated by MCMC, the BAL programme which kicked off in the second quarter of 2016 witnessed a succession of 16 workshops traversing the whole Malaysia. Conducted at selected PI1M, BAL is a one day event that brought about revelations on the rudiments of encoding, programming and robotics technology. Participating in the workshops were students between 13 to 17 years of age.

BAL's focal point in its series of exploration of the whole country was angled towards PI1M in rural areas. As many as 499 students, 94 PI1Ms, 52 schools and 116 PI1M's staff were optimised through the training sessions which clocked up to 120 hours.

Such programme had successfully yielded 44 mobile application prototypes and 103 robots. BAL is apparently beneficial owing to the practical learning and encoding modules that were designed befitting the latest learning trend in schools all over the world. The Ministry of Education Malaysia has incorporated the encoding programme as one of the curriculum in primary schools beginning 2017. BAL proved to be a favourable exertion in cultivating interest towards science, technology, engineering and mathematics (STEM).

Acknowledging the encouraging response received from students, teachers, local leaders, the community and service providers, this programme will be sustained by MCMC for the entire PI1M, whereby it shall see optimisation in the concept of the workshop for the following year.



BAL at PI1M

iii. 3D Printing Workshop

Premised on a concerted action between MCMC, the District Education Office and 3D Printer Sdn Bhd, this programme is meant to harness knowledge and skills in operating a 3D printer, and also in crafting model designs using software. Among the attendees at the 3D Printing Workshop were librarians, managers and assistant managers from 1Malaysian Internet Centre.

iv. Malaysia Developers' Day (MYDD)

Joining forces once again for the fourth time, MCMC and AT&T had brought the Malaysia Developers' Day (MYDD) event to life at the Kuala Lumpur Convention Centre on 22 and 23 September 2016 in conjunction with KL Converge! 2016. It succeeded in attracting more than 130 participants from all over Asia, including Singapore, Indonesia and India.

MYDD 2016 is a competition which challenges the contestants from 14 countries, including ASEAN Dialogue Partners and ASEAN, in developing mobile applications within 24 hours. Contestants were given access to equipment, knowledge and also the support of mentors. In the spirit of helping to propagate a generation of application developers in the region, a handsome reward worth more than USD13,000 (RM57,400.00), including five scholarships were offered to undergo online software training.



Winners of the MYDD 2016

C. Creative Content Development

The very essence of establishing a sustainable ecosystem for content development within a society is entrenched in the enrichment of human capital that is attained through training and harnessing skills, cultivating talent and advocating commercial viability. In furtherance to this aspiration, MCMC has outlined several initiatives centred on capacity building which shall proliferate and impel local content.

i. Script to Screen (SKS) Programme

To integrate the optimisation of resources and training, MCMC had teamed up with a few public and private institutions of higher learning (IPTA/IPTS), and hence taking on the role of strategic partners. The related IPTA/IPTS assume the duty of providing expertise in the form of their lecturers and selected students to act as facilitators. Moreover, the IPTA/IPTS' editing studio facilities were also leveraged in training PIIM's managers and assistant managers.

A total of 60 educators from five universities were at hand in providing training to the managers and assistant managers of PIIM. Among the IPTA/IPTS that are spread out to the whole country covering six territories and extending their cooperation to assure the success of the SKS programmes were:

Strategic Partners and Time Line for Phase 1 - 2016

 UMS <small>UNIVERSITI MAKLYSIA SARAWAK</small>	 UNIMAS <small>UNIVERSITI MALAYSIA SARAWAK</small>	 UNIVERSITI MALAYSIA KELANTAN
1-2 JUN	21-22 JULY	6-7 SEP
 MMU <small>MULTIMEDIA UNIVERSITY</small> Nusajaya	 MMU <small>MULTIMEDIA UNIVERSITY</small> Cyberjaya	 USM <small>UNIVERSITI SAINS MALAYSIA</small>
25-26 OCT	9-10 NOV	30 NOV - 1 DEC

INFRASTRUCTURE

SMART COMMUNITY

Armed with the purpose of challenging the level of creativity and optimising the expertise of each IPTA/IPTS, these institutions had chosen one specific theme for the participants in producing their respective videos.

Specific themes by IPTA/IPTS in producing the SKS videos



ii. MYKomunitiKreatif (MYKIF)

MYKomunitiKreatif is a medium of visualisation which is meant to spur the PIIM community in effectuating video contents along the lines of tutorials, guides, tips, methods, advise, recipes or any other appropriate contents that can be uploaded to a video sharing website such as YouTube.

The project is meant to encourage knowledge sharing among the community over digital contents, to invigorate the content development industry and also, paving the way for the transformation of the local community, thus, sparking success for the Smart Community drive.

Factual summary of MYKIF



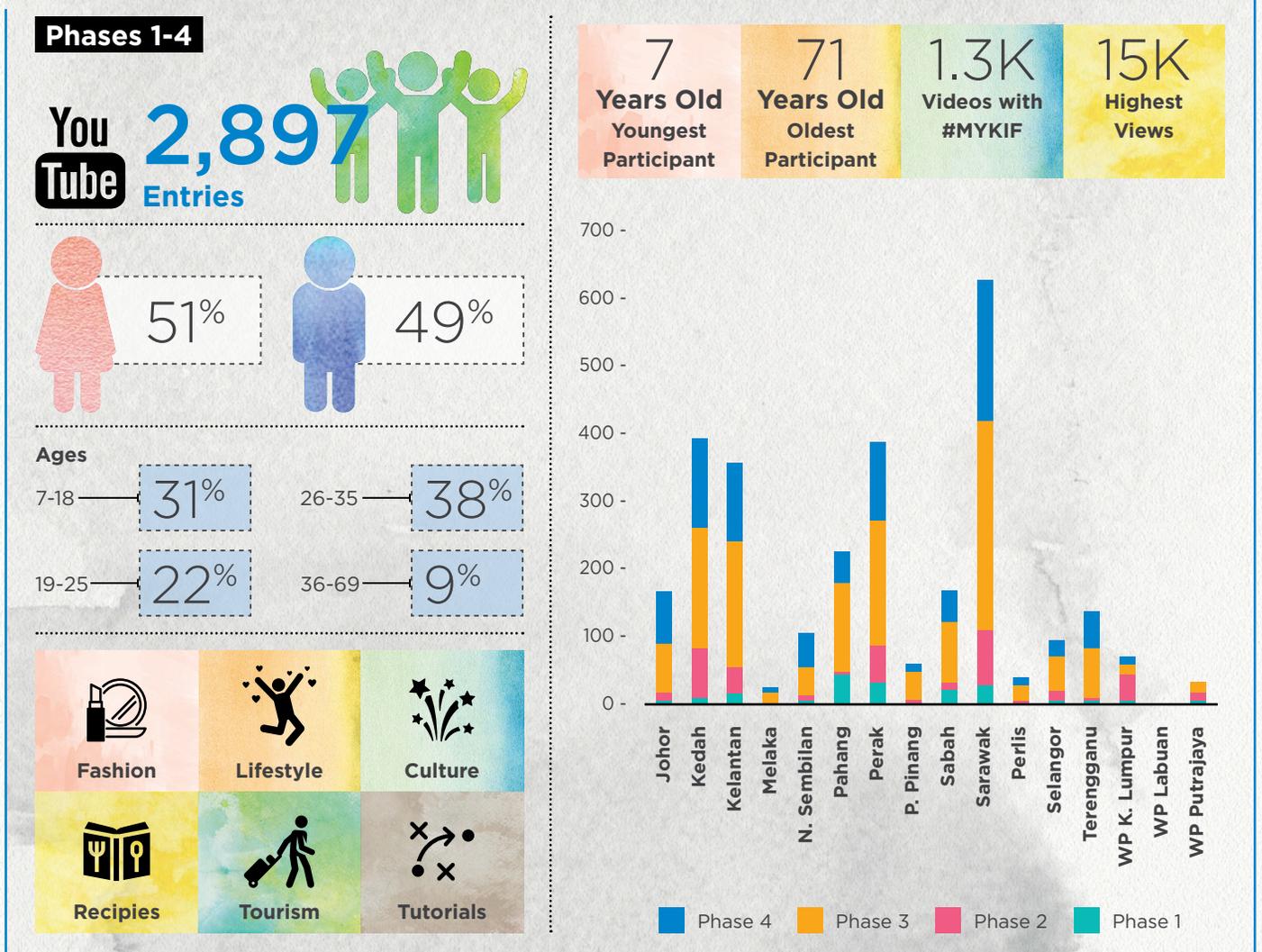
Subsequently, MCMC had organised a MYKomunitiKreatif Video Production Competition as a means to stimulate community participation in the making of quality videos. Opened to all Malaysia Internet Centre communities all over the country, the competition was divided into four stages and entries were by individuals or in groups.

The modus operandi of the competition dictated a simplified video version for a duration of five minutes on the subject of daily household chores, handicraft, craftsmanship, sharing of recipes, customary practices, healthcare, fashion or tourism, and finally, it would have to be uploaded to YouTube. Participations were done online at <http://mykif.mcmc.gov.my>.

Judges for the competition were chosen based on the active participation of agencies in content development, being MCMC, National Film Development Corporation Malaysia (FINAS), Radio Television Malaysia (RTM), Telekom Malaysia (TM) and National Arts Culture and Heritage Academy (ASWARA). Cash and certificate of participation were awarded to the winners of the competition.

	Phase 1	Phase 2	Phase 3	Phase 4
Johor	8	10	75	76
Kedah	10	75	175	133
Kelantan	19	37	186	115
Melaka	2	1	16	6
Negeri Sembilan	5	8	43	52
Pahang	44	5	129	47
Perak	35	53	186	115
Pulau Pinang	2	2	45	12
Sabah	21	14	86	49
Sarawak	31	79	309	206
Perlis	2	3	23	12
Selangor	6	15	52	22
Terengganu	7	3	75	53
WP Kuala Lumpur	8	37	14	11
WP Labuan	0	0	0	0
WP Persekutuan Putrajaya	5	12	15	0

Statistics of Participation in the MYKomunitiKreatif Video Production Competition by States



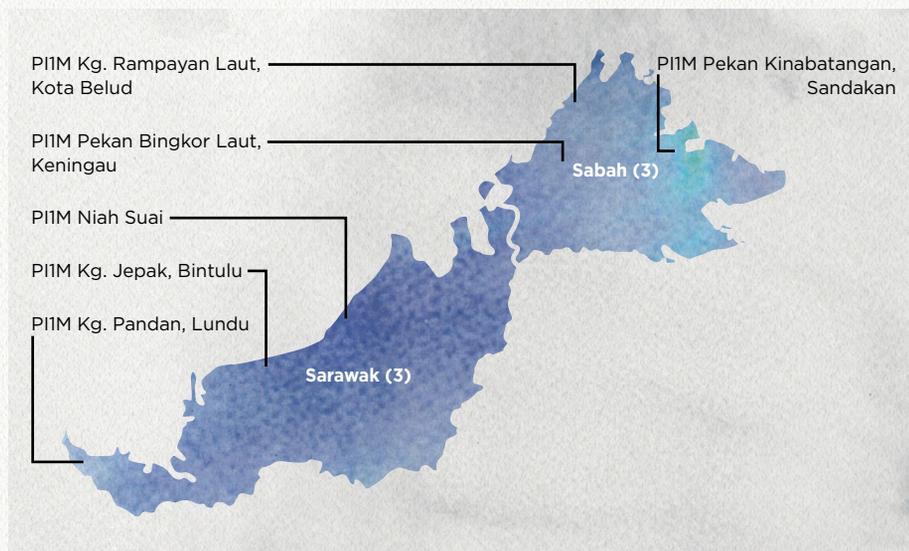
INFRASTRUCTURE

SMART COMMUNITY

Registered Post Agent at PI1M

Under Phase 3 of the Postal Transformation Plan for Sabah and Sarawak (PTPSS), MCMC and Pos Malaysia Berhad joined forces to bring about Registered Post Agents at selected PI1M. This venture aspires to elevate the postal services required by rural communities. The chosen PI1M serves as the centre for postal services and it offers considerably cheaper prices as compared to postal services in other areas. Kick-started in early November 2016, a total of six PI1Ms were selected all over Sabah and Sarawak to pioneer the undertaking.

Map of Registered Post Agents at selected PI1M



INTERNATIONAL RECOGNITION

Acknowledgement for Smart Community came in the form of being listed among five projects to have received the highest number of votes out of 27 projects that made it into the list of WSIS Prizes 2016¹. Categorised under the Communications and Information Infrastructure, the event took place during the World Summit on Information Society (WSIS) 2016, held in Geneva Switzerland on 4 May 2016. In addition, the Kemaman Smart Community was also in the list of achievement, in which a certificate of championship was awarded to MCMC through its representative from the Kemaman District Office.

MCMC's presence was also felt at the International Conference on Research and Innovation in Information Systems (ICRIIS) 2015, organised by University of Technology Malaysia from 9 to 10 December 2015. The occasion which took place in Melaka brought to fore the 'Integrated Flood Management System Portal' - a concept that had taken shape in the hands of the Kemaman Smart Community. Stationed at the Kemaman District Office, the 'Flood Management System' was set in motion to leverage the realm of ICT in managing flood disaster.

In its entirety, this flood action plan is a system that is built upon three monitoring stages, i.e. before, during and after the flood. The scheme went into full force in mid-2015 and was fully taken advantage of by the agencies involved in the flood disaster management in the district of Kemaman. All the related agencies in Kemaman were braced with periodic training in the utilisation of the flood management system in order to comprehensively optimise its usage. The central element of the whole structure is in coordinating and channelling multiple sources of information. The Flood Management System is the primary medium in giving early warning to the community of an oncoming flood, hence, allowing for an anticipatory preparation. Inter alia, the portal displays Close Circuit Television (CCTV), preregistration, flood relief centres, management of assets, organisation of supplies, alerts via short messaging services (SMS) and volunteering activities. Anchored by a comprehensive system that is reinforced by innovation in the ICT domain, it is able to imprint an enormous impact on the society. And so, on the grounds of having devised the said system, MCMC gained recognition and brought home a Bronze Medal.

¹ WSIS Prizes 2016 is an avenue for identifying and promulgating success stories and exemplary models with the hopes of empowering local society whilst paying homage to the stakeholders for their commitment and providing value added services to the people, with the intent of embracing the goals of WSIS.

SPECTRUM MANAGEMENT

Spectrum resources are national assets managed by MCMC, as stipulated under the provisions of the Communications and Multimedia Act 1998 and the Communications and Multimedia (Spectrum) Regulations 2000. In general, spectrum management encompasses the following aspects:

- i. Segmenting spectrum allocation into three categories, i.e. spectrum, apparatus and class;
- ii. Technical coordination with neighbouring countries and internationally;
- iii. Domestic bilateral coordination with government agencies; and
- iv. Drawing up and documenting spectrum allocation and utilisation policies via Spectrum Plan and Standard Radio System Plan (SRSP).

SPECTRUM COORDINATION AND REALLOCATION

In view of the fact that spectrum is a treasured national asset, it has to be administered and regulated soundly to ascertain it is devoid of any disruption, whilst ensuring the quality of service. Coordination and reallocation of spectrum are among the mechanisms adopted in optimising this resource.

In achieving the objective of spectrum optimisation, the main undertakings in 2016 were:

- a) The coordination and reallocation of radio frequency spectrum in the 900MHz and 1800MHz bands for the mobile broadband services; and
- b) Revision of the SRSP document regarding the following frequency bands:
 - i. 5925MHz to 6425MHz; and
 - ii. 6425MHz to 7110MHz.

Spectrum Coordination and Reallocation for the 900MHz and 1800MHz Frequency Bands

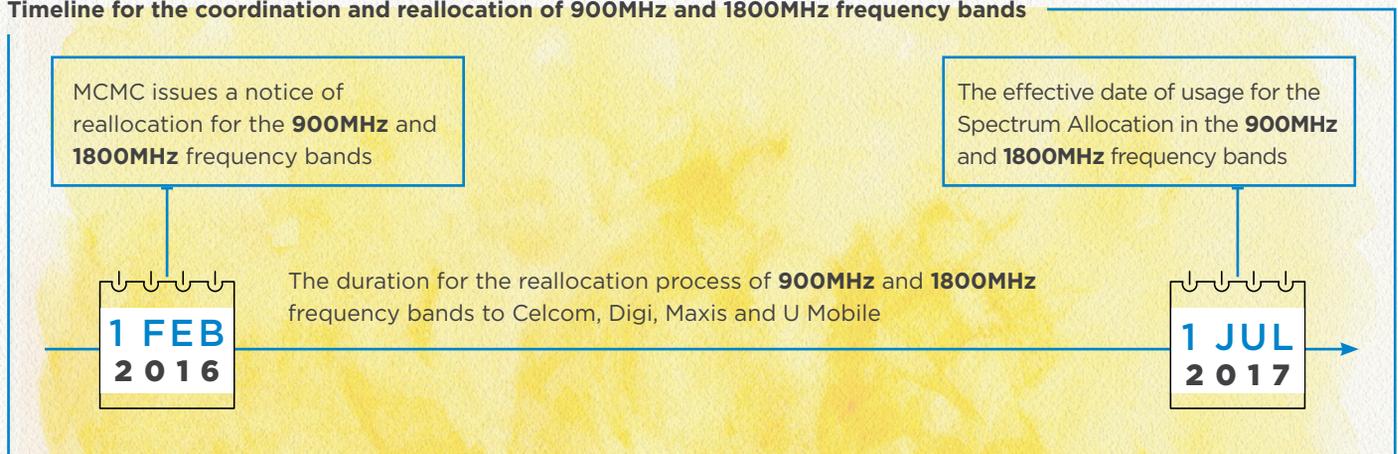
The utilisation of both these frequencies in Malaysia are meant for mobile broadband services, whereby service providers such as Celcom, Digi and Maxis render voice and data services to the entire nation.

Measures in maximising spectrum resource had warranted the coordination and reallocation of spectrum in the 900MHz and 1800MHz frequency bands.

This move is seen as a means of advocating a more efficient use of frequency bands, bringing forth new technologies and boosting competition in the provision of mobile broadband services.

To effect a smooth running in the coordination and reallocation of spectrum, a timeline has been devised as a guide for mobile service providers. The specifics are as follows:

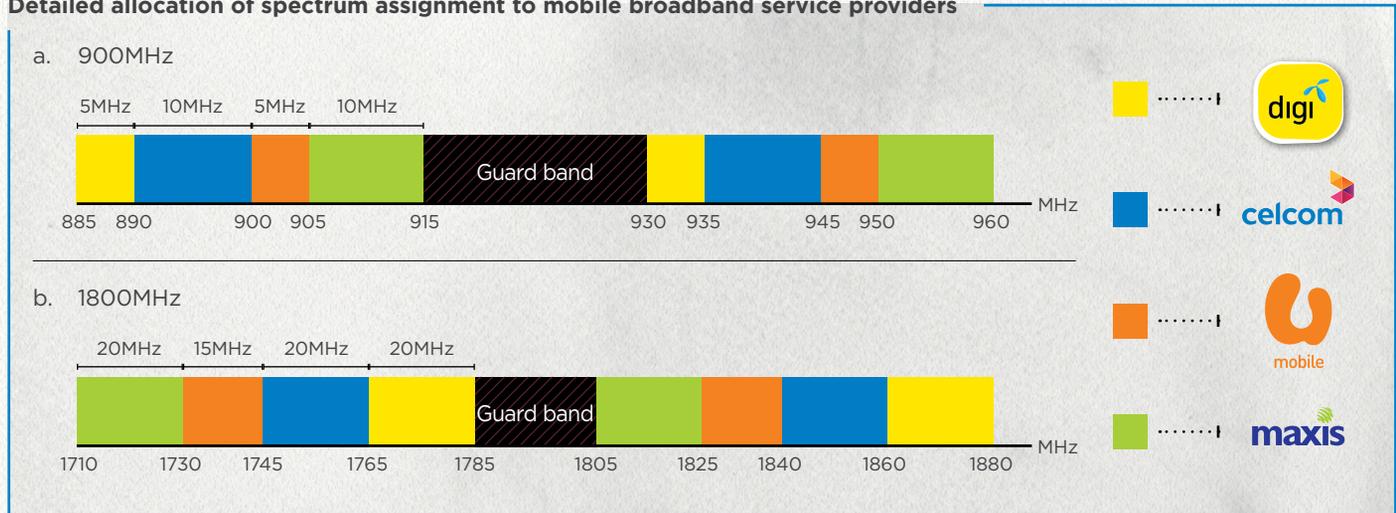
Timeline for the coordination and reallocation of 900MHz and 1800MHz frequency bands



SPECTRUM MANAGEMENT

A detailed assignment of spectrum after the reallocation process is as illustrated in the diagram below:

Detailed allocation of spectrum assignment to mobile broadband service providers



A document presentation ceremony for Spectrum Assignment in the 900MHz and 1800MHz frequency bands was held at MCMC's office in Cyberjaya, Selangor on 14 November 2016 for the mobile broadband service providers.

In essence, the spectrum coordination and reallocation process for the 900MHz and 1800MHz frequency bands are proceeding steadily. And, per the given notification, spectrum usage in the 900MHz and 1800MHz frequency bands as provisioned to mobile services operators, namely Celcom, Digi, Maxis and U Mobile, will take effect on 1 July 2017.



Document presentation ceremony for the Spectrum Assignment of 900MHz and 1800MHz frequency bands.

Revision of the SRSP Document

Technical specifications and criteria for the use of certain spectrum bands for wireless systems or services are clarified and expounded upon in the Spectrum Plan and Standard Radio System Plan (SRSP). The SRSP Document is compiled through discussions with several working groups that have been established and composed of members from MCMC, government agencies, the communications and multimedia industry, broadcasting bodies, the spectrum radio users association, as well as institutions of higher learning.

In 2016, MCMC has revised the SRSP Document which concerns the use of fixed line telecommunications system encompassing frequencies within the band of 5925MHz to 6425MHz and 6425MHz to 7110MHz.

ASSIGNMENT OF RADIO SPECTRUM

MCMC is also responsible for the issuance of assignments that permits the use of radio frequencies under the Spectrum Assignment and Apparatus Assignment categories.

Spectrum Assignment (SA)

Throughout 2016, a total of 24,716 base stations for SA IMT2000 were installed by telecommunications operators. The details are shown in the table below:

Total number of base stations installed by telecommunications operators

Territories	Operators				Total
	CELCOM	UMTS	U MOBILE	DIGI	
Central	1,997	2,047	2,004	2,311	8,359
Northern	889	1,169	1,100	1,211	4,369
Southern	880	1,178	1,211	1,087	4,356
Eastern	793	1,036	781	1,048	3,658
Sarawak	562	502	277	638	1,979
Sabah	469	506	259	761	1,995
TOTAL	5,590	6,438	5,632	7,056	24,716

Note: Celcom (Malaysia) Berhad (Celcom)
 UMTS (Malaysia) Sdn Bhd (UMTS)
 U Mobile Sdn Bhd (U Mobile)
 Digi Telecommunications Sdn Bhd (Digi)

SPECTRUM MANAGEMENT

Apparatus Assignment (AA)

As many as 136,155 AA applications were processed, including new and reapplications of AA.

Total AA applications by type of services for 2016

Types of Services	Total No. of New Applications	Total No. of Reapplications	Total AA
Ship Stations	222	670	892
Aircraft Stations	58	387	445
Land Mobile Stations	1083	4,412	5,495
Amateur Stations	2,342	649	2,991
Broadcasting Transmission Stations	22	929	951
Flight Service Stations	31	144	175
Cellular Radio Base Stations	2,022	35,771	37,793
Fixed Land Stations	9,630	15,444	25,074
Microwave Stations	12,336	44,974	57,310
Earth Stations	911	4,113	5,024
Space Stations	0	5	5
TOTAL	28,657	107,498	136,155

SA IMT2000 and AA Fees Throughout 2016

Fees, as prescribed by MCMC are imposed on each application for spectrum and apparatus assignments. Information and guidelines pertaining to the type and amount of fees being imposed are available on MCMC's official website. In its effort to be more efficient, MCMC has facilitated the method of payment by adopting the E-Payment approach.

Below is the total fee collection for spectrum and apparatus assignments issued by MCMC for the year 2016.

Total overall fee collection for SA IMT2000 and AA throughout 2016

Fee Categories	Total Fee Collection (RM)
SA	2,494,274,120
AA	292,280,773
Overall Total (RM)	2,786,554,893

Inspection, Compliance Verification and Trial Transmission of AA

To ensure that every single radio communications equipment has a valid AA license, and comply with the provisions stated under the Communications and Multimedia (Spectrum) Regulations 2000, inspections, compliance verification and trial transmission of AA were carried out in 2016 involving the following activities.

AA Inspection, compliance verification and trial transmission procedures executed throughout 2016

Activities	Total Inspection
Periodical site inspection	9
Inspection of AA belonging to agencies/government departments	4
Trial transmission verification of the WCDMA900 services using the dual carrier system on the P-GSM band	2
Trial transmission verification on the E-band	2
Trial transmission verification of the FM radio services	26
Trial transmission verification of the Digital Terrestrial Television (DTT) broadcasting services	11
Trial transmission verification of the point to multipoint Radio over Fibre (RoF) system	2
Trial transmission verification of the Long Term Evolution (LTE)	11
Trial transmission verification of the LampSite solutions for Long Term Evolution (LTE)	1
Inspection and compliance verification of the trunked radio apparatus assignment	13
Inspection and compliance verification of the paging transmission station apparatus assignment	3



Site visit involving AA inspection, compliance verification and trial transmission

SPECTRUM MANAGEMENT

Migration of Spectrum Management System (SpMS)

Phase 1 of the SpMS migration project development had commenced at the onset of 2016 which entailed 44 subservices, and therein, were five modules for each subservice. The entire process took five months, and in May, consumers' survey session was conducted to gauge consumers' response of their experience on the outcomes in Phase 1. In furtherance to that, acceptance testing was performed, and thereafter saw the conclusion of Phase 1.

The developments in Phase 2 were also executed in 2016, whereby it required 47 subservices. The survey and study of consumers' experience got under way in November, followed by the acceptance testing session which took precedence after improvement and rectification works were carried out.

Data mapping and the migration of existing database to the new database in Phase 1 had been successfully performed. Nonetheless, it is still subject to modifications and data restoration in order to elevate data integrity, which in turn would produce a more accurate result in administering technical analysis. The system is expected to be operational in the first quarter of 2017.

SPECTRUM MONITORING

Radio frequency spectrum is an essential and limited source of asset for the nation. For the common good and well-being, Spectrum Monitoring and Interference Resolution Department under the aegis of MCMC, is constantly monitoring this asset to determine its optimal usage.

Spectrum Interference

Communications system tend to be affected by the occurrence of spectrum interference and among the consequences of such incident are:

- i. Indistinct conversation or noises;
- ii. Disconnected or blocked data network; and
- iii. Hang-up in video transmission

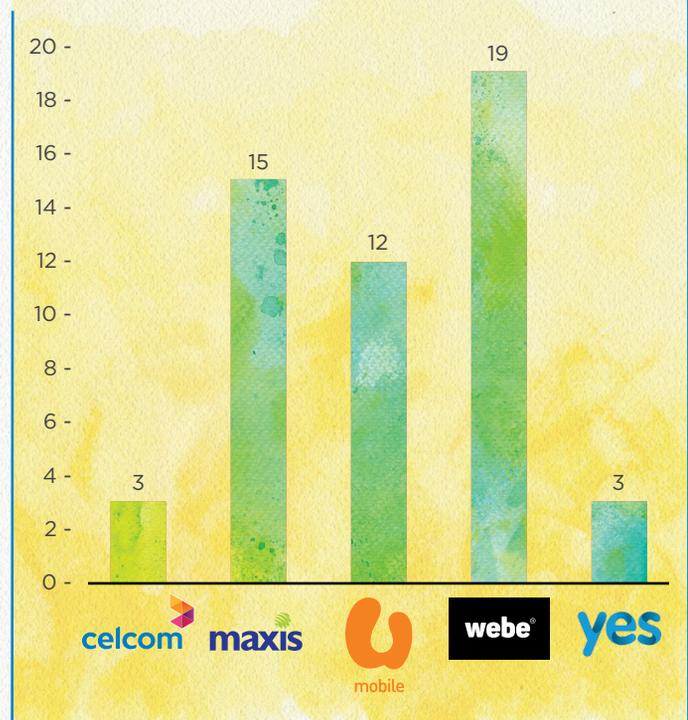
During the occurrence of spectrum interference, the provision of services would have to be channeled through another frequency so as to avoid failure in the communications system. Since the interrupted frequency channel is seen as a wasted resource of the country's asset, therefore it is crucial to identify the actual cause of interference as a means of affirming that the asset is reoptimised.

In 2016 alone, MCMC had received a total of 195 cases of spectrum interference complaint, and from that, 93 cases in the same year and 147 cases in the previous year were successfully resolved.

Challenges in Investigating Spectrum Interference

Ongoing investigations into 52 out of 66 cases are grouped under the mobile services category. Of these, the highest number of complaints concerning spectrum interference were from Maxis, U Mobile and Webe Digital. Based on MCMC's investigation for the same case in a different location, cases which are still under probe are suspected to be interrupted by wireless devices or appliances that do not conform to standards and are installed in homes, shops or offices. The absence of home occupants, failure of residents of the premise to contact MCMC, as well as the erratic operating hours of devices, had all added up to being a hindrance in investigating such cases.

Breakdown of cases in 2016 that are still under investigation based on service providers



Audio Video Transmitters that are used for watching Astro on other televisions, Radio Frequency Identification (RFID) scanners for automatic gates and Digitally Enhanced Cordless Telephone (DECT) type of house phones are among the main contributors to spectrum interference encountered in 2016.

Appliances that causes spectrum interference



Audio Video Transmitter



DECT Phone



RFID scanner for automated gate

SPECTRUM ENGINEERING AND CAPACITY DEVELOPMENT

2016 was marked by continuous undertaking of new projects which necessitated spectrum monitoring tools and the intensification of MCMC's capabilities in observing spectrum usage which is consistent with the advancements in telecommunications technology.

NASMOC Expansion Project

Abbreviated from National Spectrum Monitoring and Control System, NASMOC, in concise, is a system with the capabilities of performing real-time frequency monitoring, detecting occupancy in frequency bands and measuring field strength for broadcast stations, apart from indicating transmission directions.

All the functions of the NASMOC system can be rendered from MCMC's head office by utilising dedicated wired communications line. Accordingly, all frequency monitoring activities are effectively managed from long distance, besides aiding in conserving time and energy.

NASMOC Extends Its Site

The NASMOC Expansion Project was officially initiated in the middle of 2015 and scheduled to be finished by the end of 2016. The addition of new sites is in itself a step towards the betterment of the existing NASMOC system. It serves to augment the capabilities of the NASMOC system in detecting the direction of frequency interference by employing new technology, coupled with the ability to monitor at greater frequency range.

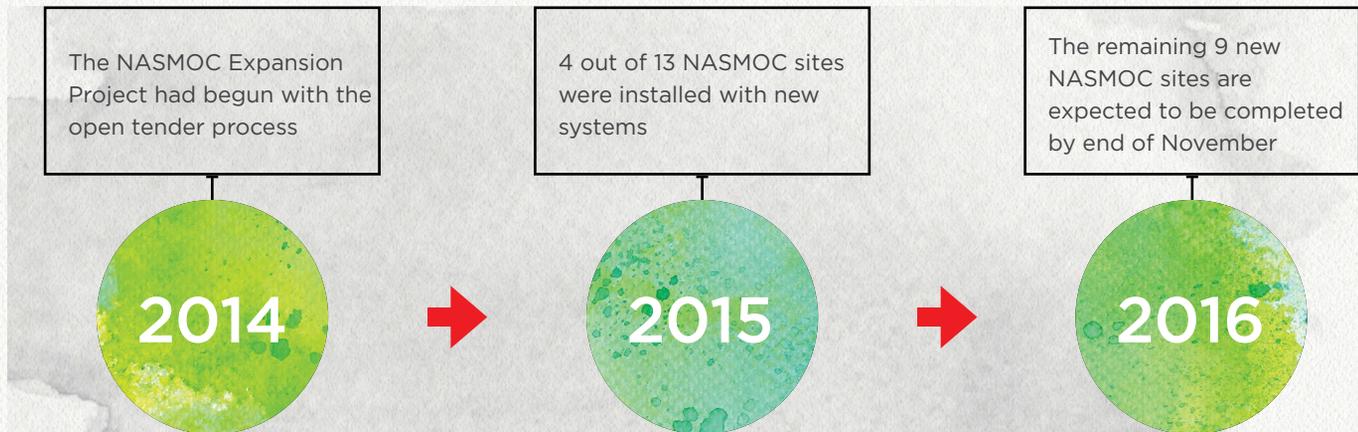
The exponential progress in telecommunications technology, mainly around Klang Valley has triggered complex frequency interference that creates a perplexing situation in identifying the source of interference and its location. On that account, the addition of new and sophisticated NASMOC sites, particularly in Klang Valley had assisted MCMC to search for the source and location of frequency interference expeditiously and precisely. Clearly, as the area covered by the NASMOC system spreads wider, MCMC would be able to optimise working hours, despite being confronted with constraints due to lack of engineers.

SPECTRUM MANAGEMENT

Installation Area and Placement of New NASMOC System Plan

Essentially, the project comprises of 13 new NASMOC sites, and the scope of work encompasses two components, being the relocation of the former NASMOC system and the additions of new NASMOC sites within Klang Valley.

Status of the NASMOC Expansion Project from 2014 to 2015



This project continued its momentum in 2016 with the installation of new NASMOC system for the remaining nine more sites.

All 13 NASMOC sites that are involved in the NASMOC Expansion Project are as listed below.

Specifics on the Planning and Placement of the NASMOC System in 2016

Clusters	Purpose	Areas	Planning	Status
Northern	Relocation	Manjung, Perak	Expected to be completed in 2016	Completed in May 2016
		Taiping, Perak		
Eastern		Dungun, Terengganu		
	Additions	Besut, Terengganu	Completed in 2015	Completed in July 2016
Kuala Lumpur		Wangsa Maju		
		Kepong		
	Additions	Cyberjaya	Completed in 2015	Completed in May 2016
Shah Alam		Kajang		
		USJ		
	Additions	Klang	Completed in 2015	Completed in June 2016
Seremban		Seremban 2		
		Malaysia Airports Holdings Berhad		
Sepang	Additions	KLIA/KLIA 2	Expected to be completed in 2016	Completed in November 2016



The new NASMOC System for model 737 (left), installed in Shah Alam and model 707 (right) installed in Seremban 2

Project Closure

The NASMOC Expansion Project was successfully executed and completed in November 2016. The remaining nine new NASMOC sites were installed and fully operational in conducting monitoring activities and searching for the source of frequency interference.

Before the NASMOC Expansion Project was implemented, there were only 21 locus in the entire country. Today, the NASMOC system network has grown and are in full working order at 34 sites all over Malaysia. Moreover, the automatic monitoring of spectrum usage activities also serves to comprehensively optimise the use of spectrum.

>>

Malaysia is fully committed in developing the postal industry through the organisation of Asian-Pacific Postal Union (APPU) Executive Council Meeting.



INTERNATIONAL

<<

MCMC hosted the Broadband Asia Forum 2016 in partnership with the Commonwealth Telecommunications Organisation (CTO).

>>

Close ties at the international level is sealed by virtue of the ASEAN Telecommunications and Information Technology Ministers Meeting.



>>

IN or International ICT Volunteers' espousal in advancing ICT to engender a digital society in the rural areas.



<<

Dato' Sri Dr. Halim Shafie acting as the Chairman of the 21st ASEAN Telecommunications Regulators' Council (ATRC) Meeting.

INVOLVEMENT



<<

MCMC represents the Malaysian Government to chair the Asia Pacific Economic Cooperation (APEC) Ad Hoc Steering Group on the Internet Economy (AHSGIE) Meeting for the second year running.

>>

An MCMC's officer was appointed as the Vice Chairman of the Asia Pacific Telecommunity (APT) Preparatory Group for the 16th World Telecommunication Standardization Assembly (WTSA-16).



POLICY IMPLEMENTATION

POLICY AND LEGISLATION



The MCMC Strategic Plan is MCMC's internal course of action which covers a variety of key programs based on **7** core policies and **17** strategic initiatives, to be implemented by relevant Divisions and Departments.

STRATEGY AND POLICY

In its endeavour to attain the key performance indicator (KPI) that has been set for the telecommunications and multimedia industry under various national plans, for instance, the 11th Malaysia Plan (11MP) which aspires to expand² and upgrade broadband³ infrastructure whilst elevating protection and the capabilities⁴ of its users, MCMC has drawn up a five-year strategic plan (MCMC Strategic Plan) which was finalised in 2015 and began to be implemented in early 2016.

The MCMC Strategic Plan is in fact MCMC's internal course of action which embraces numerous preeminent programmes, characterised by seven core thrusts and 17 strategic dynamics to be effectuated by the respective Divisions and Departments. The programmes are to be implemented intermittently and their KPI accomplishments are monitored by the Project Management Department that is placed under the Strategy and Policy Division.

To face future issues concerning internet based economy, MCMC determined in taking a sustainable approach by maximising existing resources. The emergence of an internet based economy dictates a facilitative approach and the purveyance of a favourable environment which is accommodative towards the regulatory agencies in their respective quest. More importantly, it demands proactive participation from both the industry players and consumers, and thereupon, the conceptualisation of a framework which underscores a collective regulatory effort is clearly expedient.

Over the course of 2016, MCMC, through Strategy and Policy Division had collaborated with the Land Public Transport Commission (SPAD) on the issue of regulating the e-hailing services which deploys mobile application. The teamwork had enabled MCMC to determine several matters that can be remedied conjointly. To boot, MCMC also joined forces with the National Space Agency to identify regulatory issues and in structuring policy dynamics for the space industry.

LEGISLATION

Legislation took centre stage in 2016 with MCMC accentuating its exertion in finalising the amendments to the Communications and Multimedia Act 1998 [Act 588] (CMA 1998) and the Malaysian Communications and Multimedia Commissions Act 1998 [Act 589] (MCMCA 1998). This is over and above its involvement in drafting and/or revising subsidiary legislation, owing to the fact that it is one of its preeminent terms of reference.

Amendments to the Communications and Multimedia Act 1998 (CMA 1998) and the Malaysian Communications and Multimedia Commissions Act 1998 (MCMCA 1998)

With the assistance of the Legal Division, MCMC prevailed in finalising the amendments to CMA 1998 and MCMCA 1998 upon receipt of approval from the Attorney General's Chambers on 26 August 2016 and 27 September 2016, respectively.

² broadband infrastructure coverage reaches 95 percent of populated areas by 2020

³ 100 percent broadband coverage at a targeted speed of 100Mbps all through major cities and high impact areas, with 50 percent broadband coverage at a targeted speed of 20Mbps elsewhere by 2020

⁴ The price of starter packs for broadband subscription will be 1 percent of Gross National Income per capita by 2020

The Drafting and Revision of Subsidiary Legislation

The drafting and/or revision of the following subsidiary legislation had been successfully implemented:

- i. Cancellation of the Communications and Multimedia (Rates) Rules 2002 - gazetted on 30 June 2016;
- ii. Drafting of the Communications and Multimedia (Numbering) Rules 2016 - gazetted on 9 September 2016;
- iii. Drafting of the Postal Services (Payment Rates) Rules 2016 - approved by the Attorney General's Chambers on 6 December 2016 and was presented to the Ministry for further action;
- iv. Amendments to the Communications and Multimedia (Licensing) Rules 2000 and Communications and Multimedia (Licensing) (Exemption) Order - put forward to the Ministry for further action;
- v. Amendments to the Communications and Multimedia (Compounding of Offences) Regulations 2001 - finalised at the Legal Division stage and awaiting approval on the amendments to the CMA 1998, to ensure consistency in the provision;
- vi. Revision on the Numbering and Electronic Addressing Plan - finalised at the Legal Division level and was forwarded to the Department that was assigned with the said responsibility on 17 October 2016; and
- vii. Revision on the Spectrum Planning - finalised at the Legal Division level and was presented to the Department accountable for it.

Moreover, the Legal Division was also engaged in the process of canceling the appointment of universal service providers for the Time 3 Project and the spectrum re-farming process dedicated to several significant spectrum bands. In this said missions, the Legal Division had drafted and/or revised the legal instruments that were required in accordance with the provisions under CMA 1998 and its relevant subsidiary legislation.

The Legal Division, in its entire course of action had observed appropriate measures in optimising available assets, be it in the form of human resource, financial and materials or in rendering services. To this end, part of the exploits include the deployment of in-house expertise (i.e. existing officers) instead of outsourcing external professionals (e.g. law firms), which results in cost savings. At the same time, the division also practices and encourages the concept of sharing experiences over regular and continuous discussions, in addition to disseminating and sharing information by creating a database that is accessible to all officers.

POLICY IMPLEMENTATION

LICENSING AND NUMBERING

LICENSING

The Malaysian Communications and Multimedia Commission (MCMC) has been tasked with the responsibility of issuing licenses under the Communications and Multimedia Act 1998 (CMA 1998), the Postal Services Act 2012 (PSA 2012) and the Digital Signature Act 1997 (DSA 1997).

Licenses under the Communications and Multimedia Act 1998 (CMA 1998)

The CMA 1998 terms of licensing allow licensees to conduct and manage activities relating to marketing in order to create favorable circumstances in heightening cognizance and accelerating the industry's momentum, notably within the ambit of an Applications Service Provider and in effectuating greater use of the network infrastructure.

There are four categories of activities to be considered, namely:

- Network Facilities Provider (NFP)
- Network Service Provider (NSP)
- Applications Service Provider (ASP)
- Content Applications Service Provider (CASP)

Beneath these four categories, there are two types of licenses being issued, specifically, the Individual License and Class License. The Individual License is intended for operations that necessitate higher-level regulations, whereas the Class License merely require registration and lower-level regulations. A Handbook on Licensing and the list of licensees are made available in the registrar maintained by MCMC on its official website, www.mcmc.gov.my.

Licensing Activities

Going by 2016, MCMC had evaluated a total of 122 applications relating to individual licenses and 498 registration for class licenses pertaining to CMA 1998. The table below elucidates the number of applications that were evaluated under the individual License category.

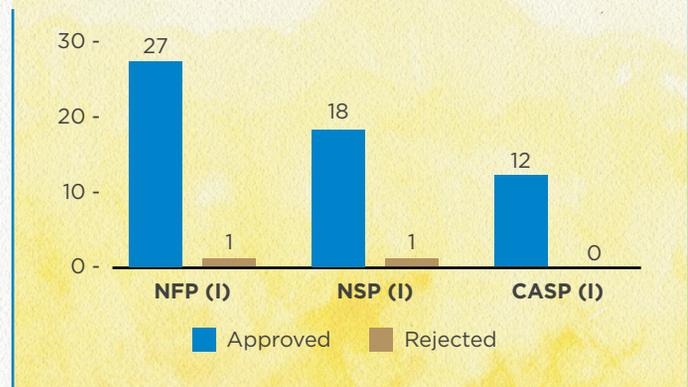
Types of Individual License Applications Received/ Evaluated by MCMC

Individual License Application	Total Number of Applications Evaluated
New License	59
License Renewal	42
Modifications of License Terms	17
Surrender of License	3
Nominated Facilities Provider	1
Total Number of Applications Processed	122

Statistics of New Applications, License Renewals, Applications for Modifications of License Terms and Surrendering of Licenses for Individual License

With regards to new applications, as of 31 December 2016, the Minister of Communications and Multimedia (Minister) had approved a total of 59 licenses comprising of 27 NFP (I), 18 NSP (I) and 12 CASP (I) licenses, while two license applications were not approved by the Minister.

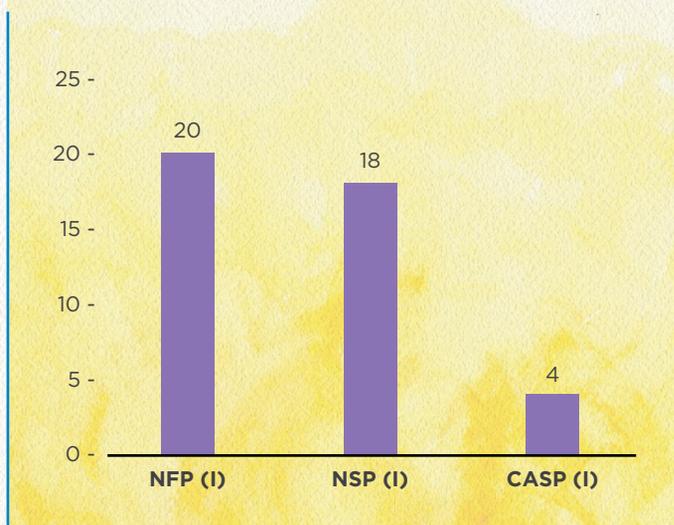
Total number of new license applications approved/rejected by the Honourable Minister



Generally, applications for the NFP (I) and NSP (I) individual license in 2016 revolves around the provision of network facilities for the purpose of expanding the mobile and high speed broadband services range of coverage in Malaysia. As for the CASP (I) applications, the Minister had approved 12 applications, whereby there were 1 application for terrestrial radio activities, 1 for non-subscription broadcasting services and 10 digital terrestrial broadcasting services using the digital broadcasting platform (Digital Terrestrial Television Broadcast - DTTB), administered by MYTV Broadcasting Sdn Bhd.

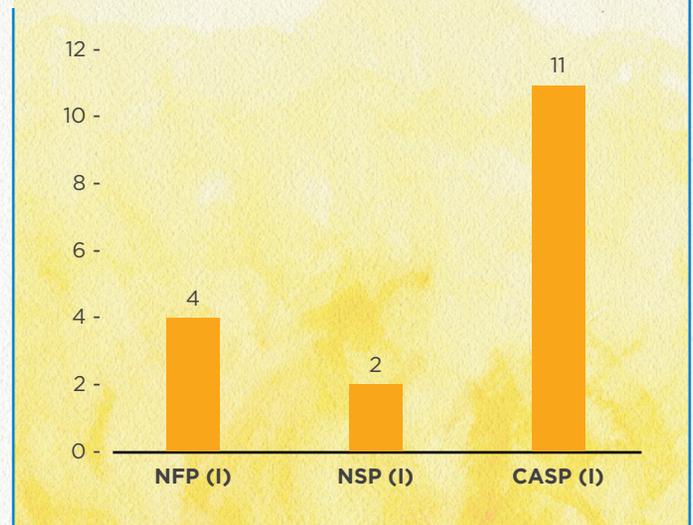
To boot, MCMC had evaluated a total of 42 application renewals for individual license, among which 20 applications for NFP (I), 18 applications for NSP (I) and 4 applications for CASP (I) licenses, as illustrated in the chart below.

Total number of licenses renewed by the Minister in 2016



A total of 17 applications for the modification to the terms of individual license had received Ministerial approval and it includes for four modifications to the NFP license (I), two NSP license (I) and 11 for CASP (I).

Total number of applications for modifications of license terms approved by the Minister in 2016



In, 2016, the MCMC also saw the surrendering of three individual licenses made by two companies, namely Teras Millenium Sdn Bhd for the NFP (I) license and Pernec Paypoint Sdn Bhd for the NFP (I) and NSP (I) licenses.

Holders of Revoked Licenses

In the same year, the individual license for seven companies were revoked, as per the list below:

- i. Fine TV Network Sdn Bhd - CASP (I)
- ii. Media Digital Distribution Sdn Bhd - NFP (I) & NSP (I)
- iii. Tg. Agas Technology Sdn Bhd - NFP (I) & NSP (I)
- iv. Baraka Telecom Sdn Bhd - NSP (I)
- v. Arra Solutions Sdn Bhd - NFP (I)
- vi. Ikhlas Informasi Teknologi Sdn Bhd - NFP (I)
- vii. Adil Bestari Sdn Bhd - NFP (I) & NSP (I)

Nominated Facilities Providers

In accordance with Section 130 CMA 1998, the Minister of Communications and Multimedia may, on the recommendation of MCMC, determine that a licensed network facilities provider, other than the owner of any network facilities, be a nominated facilities provider for the network facilities, for the purposes of CMA 1998, if the Minister is satisfied that the nomination will not impede the achievement of the objectives of CMA 1998 and the administration of CMA 1998.

The nominated facilities provider that had been evaluated by MCMC in 2016 was Extreme Broadband Sdn Bhd.

POLICY IMPLEMENTATION

LICENSING AND NUMBERING

Issuance of Class License under the Communications and Multimedia Act 1998

There were altogether 15 applications received for the registration of NFP Class (NFP (C)) license category, 15 submissions to register under the NSP (C) license, while the CASP (C) license category obtained 12 registration requests, whereas the ASP (C) license gathered an overwhelming 456 registration applications. The table below shows the total number of applications which were evaluated under the Class license category.

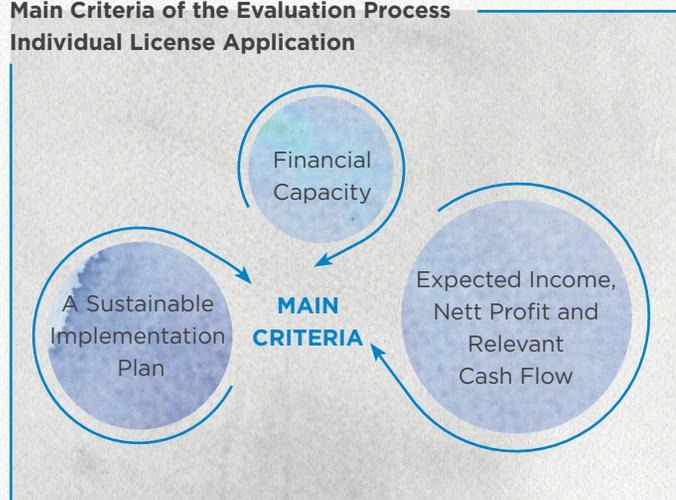
Total number of class license registration received by MCMC

Types of Class License Application	Total Number of Applications Evaluated
NFP (C)	15
NSP (C)	15
CASP (C)	12
ASP (C)	456
Total Number of Applications Processed	498

The Licensing Department had taken several measures in optimising available resources to ensure a smooth flow in the operational aspects of the department. One of the undertakings involved planning the automation of the Individual and Class Licenses application processes, termed as the Licensing Management System (LMS).

Apart from that, the Licensing Department also embarked on strengthening the internal mechanisms relating to application evaluation for Individual licenses, in which the innards of the department dictates greater priority will be given to the main criteria, as shown in the diagram below. Suitably, such improvement had allowed the Licensing Department to expedite the evaluation period by reducing it on average from 60 days to 30 days.

Main Criteria of the Evaluation Process Individual License Application



On top of that, the Licensing Department had also beefed up the re-registration process for the Class License by shortening it from 14 days to just under seven days, subject to the completeness of the application documents.

NUMBERING

Backed by a number of robust initiatives in 2016 as elaborated below, MCMC forged ahead in optimising the use of numbering and electronic addressing resources so as to establish a more effective and efficient use of the numbering resource.

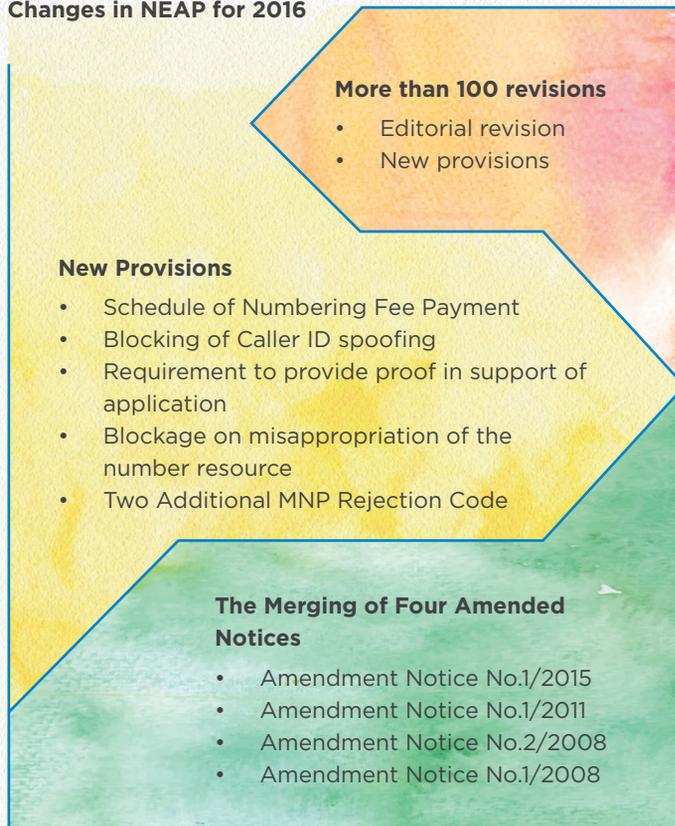
Revision of the Numbering and Electronic Addressing Plan (NEAP)

Since the last revision of NEAP was made in 2006, the need to beef up numerous sections of NEAP is therefore inevitable. After a decade, MCMC succeeded in releasing the new NEAP on 17 October 2016.

The newly revised NEAP shall be a plan that is able to protect all parties involved in the communications industry, be it service providers or consumers. NEAP also serves as a guideline for all players in this rapidly evolving industry.

The chart below displays the changes made to the new NEAP:

Changes in NEAP for 2016



Numbering Fee Schedule

Gazetted on 9 September 2016, the Communications and Multimedia (Numbering) Rules 2016 empowers MCMC to administer fee charges for each and every number that is provisioned to service providers.

The main objective of imposing the fee is to embolden prudence among service providers in operating the numbering resource. This approach is further supplemented by the underlying policy of assuring a competent management of the numbers.

Schedule on the numbering fee is as elaborated in subsection 14 of the NEAP.

Blocking Caller ID Spoofing

Caller ID Spoofing describes a scenario in which a caller masquerades as someone else and simultaneously falsifying the number that appears on the recipient's telephone caller

ID display. This manner of Caller ID Spoofing is often associated with malicious intent and bears the element of crime.

Thus, a restriction was introduced with the aim of preventing criminal activities performed through Caller ID Spoofing. Moreover, this move is consistent with the rules that have been enforced by authorities in countries such as the United States, Australia, India, Canada and Singapore.

Exception however is given to the authorities, if need be, to conceal their Caller ID for enforcement purposes.

Requirement to Provide Proof in Support of Application

Introduced and targeted towards the Mobile Virtual Network Operator (MVNO), this provision makes it compulsory for license holders or licensees to provide a valid proof of contract with the Mobile Network Operator (MNO) to support any application for numbers. All NSP (I) licensees who are eligible to apply for the numbers are subjected to this provision.

The rationale for this provision elucidates the need to determine that each application is genuine so as to avoid any form of numbering wastage in the future. It goes further to eschew the assignment of numbers to service providing companies who are not capable of maximising the use of numbers that are allocated by MCMC.

Restriction on The Misuse of Number Resource

The introduction of this provision serves to assure that the Geographic Numbers in Malaysia is only usable by customers within certain areas owing to the fact that the numbers are bound by area codes.

This is a preventive measure against any misuse of numbers which tend to swerve towards the elements of crime and fraud. Thereupon, to evade the occurrence of any such crimes, the provision enunciates that the Malaysian Geographic Numbers should not be assigned to customers or termination nodes that are beyond the bounds of the Subscriber Number Level (SNL) for such number.

POLICY IMPLEMENTATION

LICENSING AND NUMBERING

Two Additional Mobile Number Portability (MNP) Reject Codes

MCMC's proactive stance in elevating the service capabilities of MNP in terms of its efficiency and security had paved the way for the provision of two reject codes, which serves to safeguard the MNP services.

The codes are developed to verify the authenticity of porting requests and this provision was compelled by cases and reports of false porting requests.

The reject codes function as follows:

- i. SP71 - Users do not respond to the SMS that is sent; and
- ii. SP72 - Users respond to the SMS with a "NO".

At the crux of it, the Reject Codes exist as a means of protecting users from unauthorised porting, while simultaneously elevating security factors in MNP.

Retake of the 02 Area Code

A study was conducted in 2016 in relation to the retake of the "02" area code which was the prefix/area code for calls made to Singapore. Additionally, calls to Singapore can also be made using the "00" international prefix with Singapore's country code "65", followed by the service user number in Singapore.

Determining the retake of the "02" area code, and thereon, migrating fully to International Direct Dialing (IDD) was a huge decision and posed great challenge to the management. It did not just entail a pragmatic observation in resolving whether the transition should be undertaken in stages or simultaneously, but it also demanded a thorough and comprehensive deliberation and evaluation by all related quarters. MCMC's role was centred on establishing the necessities in deploying the said task which concerns an effective media campaign and consumer awareness programme. These aspects are crucial antecedents in avoiding any confusion among users. The act of retaking the 02 area code would allow for the arrangement of a whole new range of numbers, meant for further number assignments. It is expected that by the end of 2017, all calls from Malaysia to Singapore would only be made via IDD.

Improvements in the Numbering System

As part and parcel of its commitment in making certain the online numbering application system is continuously upgraded, MCMC has designed a numbering usage report module. Upon submission of application, service providers are required to furnish a usage report in order to substantiate that previous numbering assignments were utilised in the best way possible. The usage report module would enable service providers to complete and update their usage data conveniently online.

Likewise, this module also facilitates the task for service providers in calculating numbering usage that has been assigned to them. In fact, it is able to heighten MCMC's competence with better control of all the numbering that has been assigned and thereon, in assessing the eligibility of service providers in obtaining additional numbering.

It has also been made compulsory for service providers to submit an annual usage report within 30 days after the year-end. Again, the online module expedites the deliverance of report and consequently permits MCMC to better regulate numbering resource besides affirming the judicious use of numbering.

Establishing Conservation Measures for Numbering

MCMC had initiated a study on the conservation of numbering and one of the safeguarding approaches being deliberated is the assignment of numbers within a more moderate range. Since it was found that before the third quarter of 2016, the numbering assignment for geographic numbers had reduced significantly, it showed that the allocation of numbers within a smaller range would help in the conservation of numbers in Malaysia.

The next step in conservation calls for the auditing mechanism with the aim of identifying unused numbers or numbers that are no longer needed, and in turn, encouraging the return of those numbers. To this end, the Commission will defer any assignment of numbers to service providers who fail or evade from accommodating the required information.

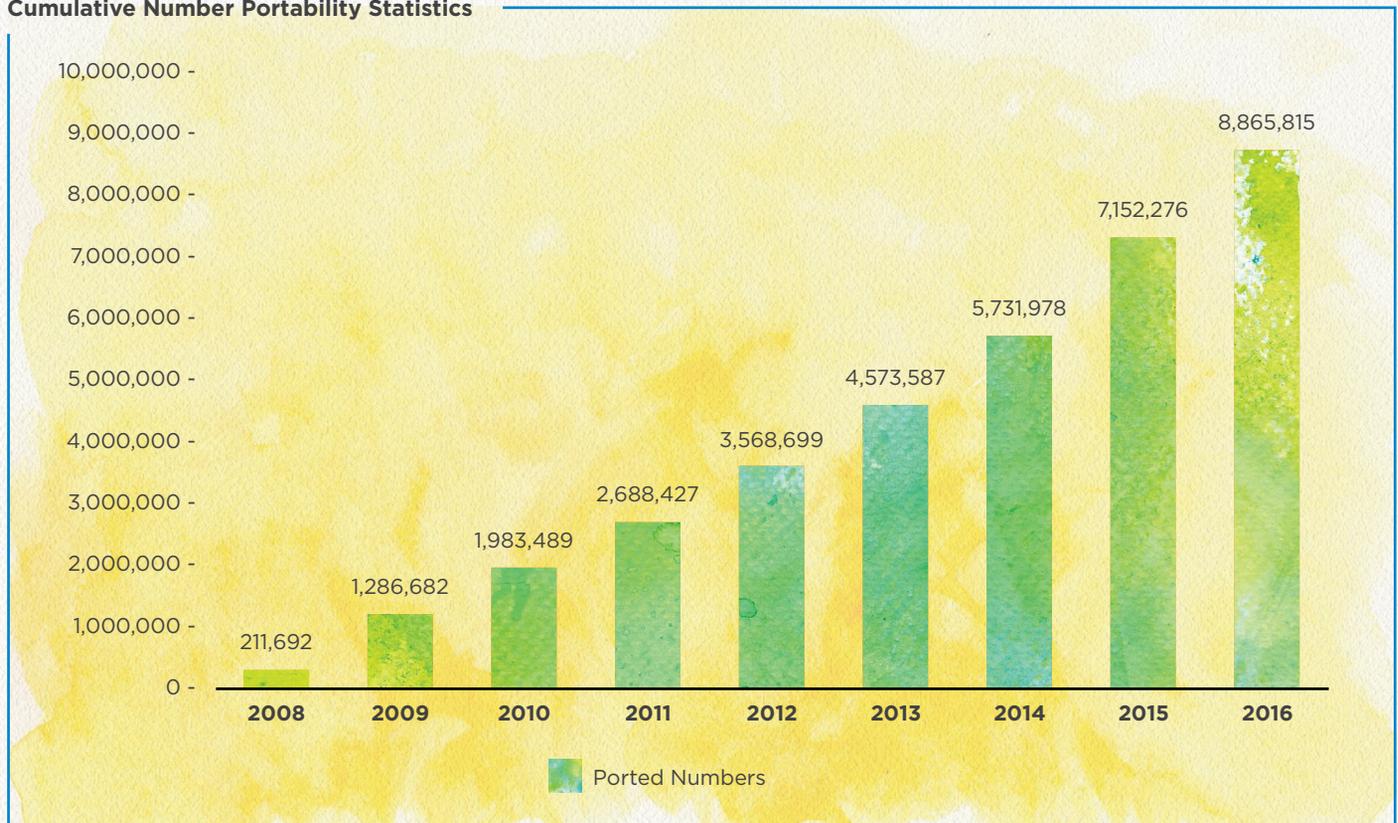
The charging of fees for numbering allocation have been practiced by many countries to advocate a more extensive use of such resource. By the same token, the incurrence of the said fee would also urge service providers to return any unused numbers that have been allocated to them.

Ascertaining the Safety of Mobile Number Portability (MNP) Process

Since the launch of the MNP services in 2008, it had given perpetual benefits to mobile users in Malaysia in comparing rates and call plans as well as in converting to other service providers without the obstacle of having to change mobile numbers in the process.

The chart underneath exhibits the transaction volume in the porting of mobile numbers from 2008 till 2016.

Cumulative Number Portability Statistics



Albeit MNP may present many advantages to users, including creating a more affordable scenario in the mobile services industry, yet MCMC has also received complaints of unauthorised portability. On the grounds that the MNP services application only requests for a copy of the user's identity card (MyKad), thus the crux of the perpetrator's modus operandi would be to impersonate the victim by presenting a copy of the victim's MyKad to the company providing the service. For the most part, unauthorised porting cases relate to nicely arranged numbers or numbers that are thought to be auspicious and perceived to bring good luck.

POLICY IMPLEMENTATION

LICENSING AND NUMBERING

The cause of anxiety in this situation is when users are dependent on their mobile phones to retrieve their text messages or SMSes from banks upon performing any banking transactions. Accordingly, to impede the probability of any occurrence of crime, MCMC and the industry players have introduced a verification system. The additional measures in the portability process involves the sending of SMS from the donor company (original service provider) to the customer, informing them that their porting request have been accepted before the number is released to the new service provider company. This is a security measure to determine that the customer had made a request for porting to exit from the original company.

Setting a Fee on Numbering

The Communications and Multimedia (Numbering) Rules 2016 which was gazetted on 9 September 2016, empowers MCMC to set a fee for the assignment of numbers. Authority is bestowed to MCMC under section 179 (1) of the Malaysian Communications and Multimedia Act 1998 (CMA 1998) in regulating, planning, administering, managing and allocating numbers. Further on, under Section 16(c) and (d) of CMA 1998, authority is vested in the Minister to establish such rules.

In relation to this, MCMC held briefing sessions during the entire month of December 2016 for service providers that have been allocated with numbers. The numbering fee was introduced as a means of encouraging prudence and frugality within the fraternity of service providers and it is seen as the best course of action in stretching the life expectancy of number resource whilst averting waste and dissipation.

Accelerating the Nation towards IPv6

Ensuing the Commission Direction No. 2 of 2015 in relation to the deployment of IPv6 in Malaysia, MCMC had taken several measures in affirming whether fellow licensees are in conformance and ready to take on IPv6. Thereon, MCMC had administered physical audit on NSP (I) licensees who are accountable for delivering local and mobile internet, data centre and web hosting services. The physical audit was executed in order to determine the entire NSP (I) licensees are all geared up for the IPv6 evolution. The auditing was effectuated in two phases, beginning from December 2015 until September 2016.

In shaping the nation for the next internet generation, an IPv6 Enabled Programme was organised by MCMC in October 2016 with the intent of enriching the skills of the workforce be it from the government agencies as well as the private sector and preparing them to ride the waves of change that is IPv6. Structured with a two-pronged objective, the first mission of the programme was to solidify the human capital by according them with IPv6 skills certification. Secondly was the introduction to two technical codes and the explication of the contents for the said codes. Both these technical codes were created through the participation of industry players in documenting a guide for the migration process to IPv6. These technical codes are the Code of Practice for the Deployment of Internet Protocol Version 6 - IPv6 and Specifications for Internet Protocol Version 6 (IPv6) Complaint Equipment.

Section

03



: HOW WE REGULATE

CONSUMER PROTECTION

COMMUNICATIONS

COMPLAINT MANAGEMENT

In line with CMA 1998, MCMC has set up the Consumer Protection and Complaints Bureau (CPCB) to exhaustively elevate consumer protection structure within the interwoven domains of communications and multimedia. The foremost desideratum of the Department is to regulate the resolution process for complaints involving the quality of service accorded by the communications and multimedia network providers in Malaysia.

Over and above, MCMC is also handling numerous consumer complaints comprising a multitude of spheres, namely, broadcasting, internet, postal and digital certification services. All grievances that are reported will be monitored in keeping with the complaints handling and resolution procedures as prescribed by the CMA 1998. In facilitating fellow consumers, MCMC has seen to the setting up and running of various complaint channels, such as the complaints hotline 1-800-188-030, MCMC Complaint Portal, email, post, fax, WhatsApp application 0162206262, and also the formation of complaint counters situated all over the states.

In tandem with the current landscape in technological services, MCMC had recorded a dramatic upsurge in complaints for the past couple of years. The hike was prompted by the growth in customer base in the communications and multimedia industry. It also has much to do with the heightened sense of awareness among consumers in vocalising their rights and seeking solutions for the issues which brought about the raise.

In view of the conspicuous increment in complaints, MCMC had taken the liberty of boosting the complaints handling operation to ensure each and every complaint received, are dealt according to CMA 1998.

Implementation of the Integrated Complaints Management System (ICMS)

The ICMS Display for the Benefit of Consumers

The screenshot displays the MCMC Complaint Portal website. At the top, there is a navigation bar with the MCMC logo and the text "MCMC COMPLAINT PORTAL" and "Panduan Pengguna / User Guide". Below this is a large banner with a red background on the left that says "REDRESS YOUR UNRESOLVED COMPLAINTS on communications & multimedia services at complaint.cfm.org.my". To the right of this banner is a "GENERAL COMPLAINT HANDLING PROCESS" flowchart with six steps: 1. Consumer issue on Communications & Multimedia services (sad face icon), 2. Contact your service provider for resolution (antenna icon), 3. Not Resolved or No Feedback (neutral face icon), 4. Refer to CFM: Complaint on Services (CFM logo icon), 5. Still not satisfied with the resolution given? (sad face icon), 6. Refer to Aduan SKMM (MCMC logo icon). Below the flowchart is a navigation bar with buttons for "ADUAN BARU / NEW COMPLAINT" and "SEMAK ADUAN / TRACK COMPLAINT", and an "INFOKONSUMER" section with the website address www.infokonsumer.my. The main content area is divided into two columns. The left column has a heading "SELAMAT DATANG KE SISTEM ADUAN MCMC" and a paragraph explaining the system, followed by a list of services: Telekomunikasi, Penyiaran, Perkhidmatan Pos/kunler, and Pemberian Perkhidmatan Sejagat (USP). The right column has a heading "WELCOME TO ADUAN MCMC SYSTEM" and a paragraph explaining the system, followed by a circular diagram of the complaint process with three steps: Step 1: Problems with telecommunication, postal, internet & radio services? Contact your service provider for resolution; Step 2: Not Resolved / No Feedback; Step 3: Aduan SKMM 1800 188 030. Email: skmm@infokonsumer.gov.my. Portal: <http://infokonsumer.gov.my>. The diagram also includes icons for "Communication and Multimedia Consumer" and "Communications and Multimedia Consumer Forum".

The realisation of ICMS is one of the foremost ventures under the Consumer Empowerment Plan (CEP) 2016-2020. The ICMS system was fully operational in November 2016 and it is described as MCMC's most significant achievement since it is the first integrated complaint system administered in the Malaysian communications and multimedia sector. The paramount advantages granted to consumers are as follows:

The Benefits of the ICMS System

No.	Main Characteristics	Benefits
1.	The First Integrated Complaint System in the Communications and Multimedia Sector in Malaysia	Integrated with the complaint management system employed by related service providers in the communications and multimedia sector (telecommunications, broadcasting (TV & radio), postal/courier services), as well as the Consumer Forum of Malaysia.
2.	Augmenting operational efficiency	It allows MCMC to carry out a systematic and effective monitoring on the complaints that are being probed by service providers and the Consumer Forum. It also helps to raise the standard of resolutions being offered by service providers.
3.	Strengthening the collaborative synergy between law enforcement agencies	This system will facilitate law enforcement agencies in reporting complaints systematically to MCMC. It is able to connect MCMC with enforcement agencies by using just a single reference number.
4.	As an indicator of future developments	All complaints that are reported to MCMC will be used as an indicator for development purposes in the near future.
5.	A module of consumers' knowledge	Other than handling complaints, this system also serves as a diversified information module for consumers by providing crucial tips before submitting any complaints.

Upgrading MCMC's Complaint Call Monitoring System

The upgrading works to MCMC's call centre for complaints which employs the CISCO recording server and agent live monitoring (voice) solution is expected to capacitate a systematic and effective monitoring of calls from users to CPCB. This system has also been amalgamated with the ICMS to seamlessly record each complaint received through phone calls straight into the ICMS.

The Benefits of MCMC's Complaint Monitoring System

No.	Main Characteristics	Benefits
1.	Voice Recording and Quality Call Monitoring	<ul style="list-style-type: none"> Every call that is received will be recorded. Live display on TV screen for monitoring purposes. The ability to perform numerous functions such as the search mechanism and to replay recorded conversations based on dates, time and over caller ID.
2.	Live Agent Monitoring	Live monitoring are performed by supervisors for each call received. Supervisors are also able to communicate with agents without interrupting telephone conversations between callers and agents.
3.	Data and Reports	This system is capable of registering and preparing an accurate report on the total number of complaint calls received by MCMC.

ISO 9001:2008 Certification

The effort it took in streamlining and effectuating such process in the monitoring and management of complaints has earned MCMC the ISO 9001:2008 Certification. This endorsement promises a continuous drive to solidify the complaints monitoring procedure and thereupon boosts consumer confidence towards MCMC. Moreover, the certification is also able to uplift operational efficacy for the entire communications and multimedia sector in Malaysia.

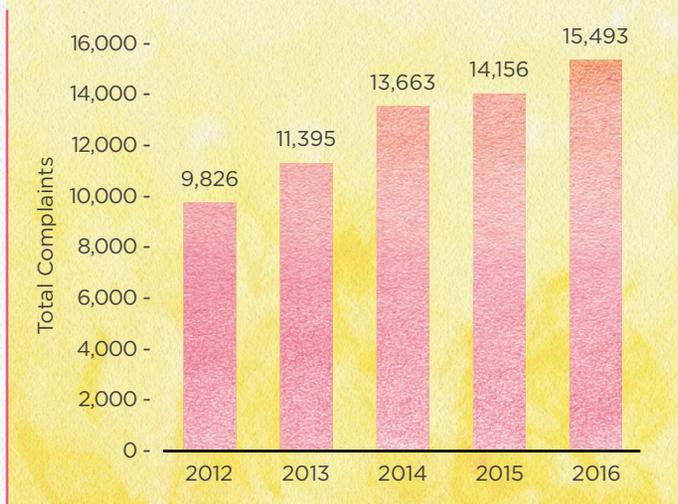
CONSUMER PROTECTION

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Complaints Statistics

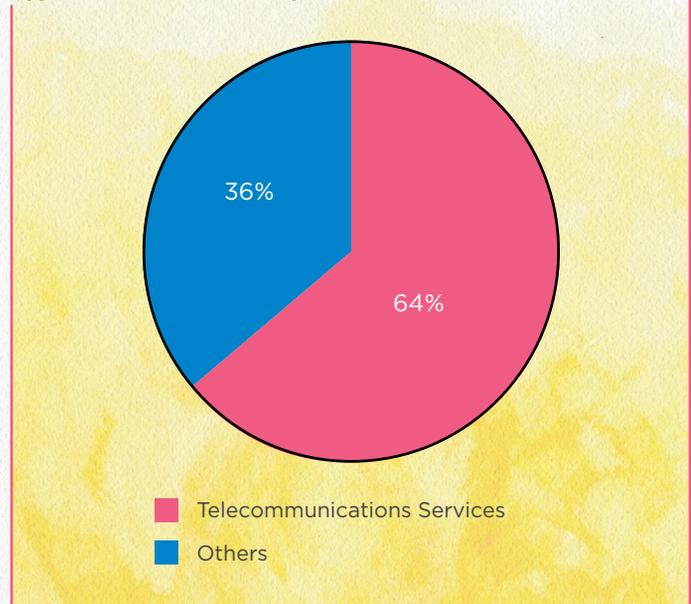
The total count of complaints recorded by MCMC in 2016 had reached 15,493. This figure indicates a 9 percent increment as compared to the numbers tabulated in 2015. Among the issues that were brought to the fore were those related to telecommunications services and misuse of the Internet.

Consumer Complaint Trends 2012-2016



64% out of 15,493 total complaints received in 2016 revolves around the telecommunications services whereas the rest related to other services, including complaints that were not within the jurisdiction of MCMC.

Types of Consumer Complaints



Total Consumer Complaints by Categories for 2016

COMPLAINT CATEGORIES	NO OF COMPLAINTS
Unsatisfactory services	2,900
Content Issues - website/blog/social networks, TV, radio, SMS, email	3,010
SMS/MMS Services - non-subscription, promotions,spams, fraud	2,471
Billing and Charges	1,672
No service coverage area / unsatisfactory quality of services - cellular, broadband/3G, fixed line, TV & radio	1,053
Disputes on Terms and Conditions	19
Wireless Village (KTW)	143
Cybercrimes	1,005
Misrepresentation of services offered - misconduct of agents / confusing promotions	278
Not under MCMC's jurisdiction	549
Unfair practices by service providers	455
Others	448
Spectrum Interference	171
False Registration	311
Postal and Courier	205
Telecommunications Structure / Radiation	71
TV Parabola /Communications equipment not in accordance to standards	67
Amateur radio/Apparatus assignments	7
Services at the 1Malaysia Internet Centre (PIIM) / Community Broadband Library	34
1Malaysia Netbook	4

HELPING THE BLIND SEE, THE DEAF HEAR

MCMC has collaborated with Telekom Malaysia (TM) and the Ministry of Communications and Multimedia Malaysia (KKMM) to launch an initiative called Video Relay Service (VRS) for those with impaired hearing, and also the Smart Applications (SA) for disabled persons. The endeavour was conceptualised in response to over 1,000 telephone calls made to the Malaysian Federation of the Deaf (MFD) from this particular community, requesting for the service of a Sign Language Interpreter (SLI).

The provision of Communications Services to Persons With Disabilities (PWD) is in concordance with the CMA 1998, as prescribed under Section 192 (1) Required Applications Services, whereby the said Act was enacted for the purpose of rendering emergency services, directory assistance, operator assistance, as well as services for PWD.

Such initiative has already been accomplished in developed countries such as Denmark, France, Germany, Sweden and Norway. As for the Southeast Asia region, Thailand takes the lead by actualising such services since 2011. It has been proven that these form of support are of tremendous help to the focused group, being PWD, in aiding their day-to-day affairs.

How the VRS Operates



The Advantages of VRS

 <p>ACCESS</p> <p>Users are able to employ this service anywhere using the smart phone, without having to go to the MFD office as currently practised.</p>	 <p>CLEAR</p> <p>It enable users to display a clearer facial expression to the interpreter.</p>	 <p>FAST</p> <p>Communications via video is much more expeditious as compared to the current technology which uses the 'chat' approach.</p>	 <p>JOB OPPORTUNITIES</p> <p>Sign language interpreters have a new source of employment opportunities which is much more secured.</p>
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Smart Applications (SA) for Persons With Vision Disabilities

SA or smart application is the medium being used by Persons With Vision Disabilities. However, it is only accessible to PWD who are registered with the Department of Social Welfare (JKM). For that reason, MCMC had collaborated with the Malaysian Foundation for the Blind (MFB) to further ease the entire process. The SA is available through 'iOS' and 'Android' operating system. Below are the main features available on the application:

Main Features of Smart Applications for Persons With Vision Disabilities

Features	Elucidation
Navigation	This application helps to guide users towards a designated destination. It is also able to advise users of their position or whereabouts, distance of journey and interesting locations nearby and so on.
Image to Speech	This application serves a huge help to users by articulating any form of writing from books or magazines. Users are only required to scan the required page(s) and the application will read the content.
Barcoding	This feature allows users to check the pricing of any items by scanning the bar code found on the product.

MONITORING AND ENFORCEMENT

MCMC is obligated in assuring that the rights of users in telecommunications services are protected and secured. For this reason, MCMC, by virtue of its Monitoring and Compliance (Communications) Department (MCCD) has ventured into numerous proactive measures in an effort to inspire a high level of confidence among consumers regarding the purveyance of services from industry players.

Registration of Prepaid Cellular Phone Users

The Government had issued a directive in 2005 for each and every prepaid phone user in the country to be registered, in order to avoid the misuse of the prepaid phone services which was steadily increasing, and thereupon, simultaneously overcoming the problem of safety which stems from the use of prepaid phones.

As at second quarter of 2016, the total number of cellular phone users in the country had reached 43,500,000. Out of this figure, 34,300,000 are registered for prepaid phone services and the rest are subscribers of postpaid cellular services.

The high proportion of prepaid phone users which accounts 79 percent of the overall handphone users in the country has made MCMC more vigilant in exerting its monitoring and enforcement duties. This determination is translated into MCMC's cause of ensuring that every registration process and procedure are adhered to, specifically, the accurate listing of users' personal details by service providers based on the information contained in MyKad, passport and other valid forms of personal identification.

In addition to the verification process carried out by service providers, MCMC also plays its part in authenticating the data that has been recorded manually, by establishing cooperation with the National Registration Department (JPN).

Up until 2015, the total number of data validated by JPN for prepaid telephone subscribers were 1.1 million, and from this bulk, 8 percent were identified as being an unmatched with JPN's data records. These unmatched and incomplete data were then returned to the respective service providers to undergo a reverification process. In the event ownership of data could not be validated, the particular cellular number will be deactivated.

Monitoring of the Level of Compliance by Service Providers

MCMC had executed several surprise checks to affirm whether service providers and their legitimate agents adhere to the clearly defined registration procedure.

2016 saw two major checks being performed, covering the Northern Territory (Perlis, Kedah, Penang and Perak), as well as the Sabah Territory (Sandakan, Tawau, Semporna and Kota Kinabalu).

The inspection series in the Northern Territory from 23 till 27 May 2016 witnessed the MCCD team in action with the participation of officers from the Network Security and Enforcement Sector, as well as fellow operatives from the Regional Office and a group of service providers. All in all, a batch of 60 officers, including service providers, were out in full force probing the appointed distributors on their prepaid registration to ascertain the authenticity, veracity and validity of data belonging to registered customers.

Antecedent to the task, service providers were required to submit details of their respective distributors and list of registrations undertaken from

1-8 August 2016, which were later verified by JPN to affirm the authenticity of customers' data based on the registered MyKad number.

The submission from service providers had aggregated 9,513 registered distributors, and of that sum, 138 were randomly selected and audited accordingly. The result of such scrutiny had revealed a mix of 65 distributors having breached the Prepaid Registration Guidelines. A recorded statement were then taken from all the distributors who were found guilty, with further action being taken by the Enforcement and Investigation Department.

As for the Sabah Territory, the MCCD officers working shoulder to shoulder with officials from the Enforcement and Investigation Department, along with representatives from the Regional Office to steer the inspection of prepaid registration administered by distributors, to ensure their conformance with the Prepaid Registration Guidelines. As such, the band of 23 officers had carried out the inspection in Sabah between 19 to 23 September 2016.

The exertion had revealed 19 out of 98 randomly chosen and audited distributors to be in violation of the related guidelines. Once again, the Enforcement and Investigation Department was assigned to pursue these cases further, premised on the recorded statement acquired from all the agents who are found to be wrongdoers.

By and large, a total of 236 distribution agents were probed and its outcome are as presented in the table below:

Level of Compliance on Cellular Prepaid Users' Registration among Distributors and Service Providers

FINDINGS BASED ON CONDUCTED CHECKS	OVERALL	NORTHERN	SABAH
Number of recorded statement taken	142	110	32
Number of distributors interviewed for data inspection	28	28	-
Number of distributors examined	236	138	98
Non-compliant distributors	84	65	19
Compliant distributors	153	73	80
% of non-compliance	35%	47%	19%
% of compliance	65%	53%	81%

Against a total of 236 distribution agents, 84 distributors were identified not to be in compliance with the registration procedures and further action were assigned and to be taken by their related service providers. MCMC will continue its vigilance in the monitoring and enforcement activities to make certain the Prepaid Registration Guideline is persistently adhered to and the information documented during the registration process are explicit and precise.

In 2016, MCMC had taken on the mission of revising and reviewing the Prepaid Registration Guidelines which was last revised in 2011. Revision of the said guidelines are established based on the inspections which were conducted, the amount of compound issued and the level of awareness among distributors in relation to the significance of verifying the proper/valid personal documents during registration. In fact this revision also serves to guarantee the rights of consumers are protected and remain relevant in tandem with rapid technological advancement.

Case Study: Replacement of Fake SIM Card for Prepaid Cellular Users

By exploiting the shortcomings in the process and procedure of SIM card replacement by service providers, a new trend in fraudulent activities had manifested itself in 2016. Weaknesses in the security system had resulted in the issuance of new SIM cards which were given to impostors without the knowledge of actual owners.

For that matter, MCMC had formed an alliance with the Malaysian Risk Management Task Force (MRMTF) whose members include banking institutions, Royal Malaysia Police and Bank Negara Malaysia, with the aim of eradicating credit card fraud and ameliorating cognizance of credit card fraudulent activities which transpires by means of SIM card replacement.

This strategic collaboration was also initiated with the aim of dealing with online fraudulent activities. One such instance is online banking and the activation of credit card using Transaction Authorisation Code (TAC) that is sent to the mobile telephone number of a fake SIM card user by reckless individuals. The mode of operation adopted by these impostors are by getting a new SIM card replacement either by using photostat copy of MyKad, or temporary MyKad, or fake power of attorney document from supposedly the targeted victim. Thereon, the impostor will proceed to make a report claiming that they had lost their mobile phone and therefore need to apply for a new SIM card from service providers.

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Another scenario sees syndicate members impersonating and claiming to be a personnel representing any particular service provider and making a call a day earlier to inform the victim that their handphone will experience service interruption for two hours. This would allow the impersonator to use the new SIM card and gain access to the TAC number and making it easy for them to transfer cash from the victim's credit card to another account or activating a new credit card without the victim's knowledge.

In view of this, all service providers have been warned to take precautionary measures in protecting their users by way of:

- i. identifying suspicious SIM card replacement request;
- ii. not allowing or proceeding with the replacement of a new SIM card which uses photostat copy of MyKad, or temporary MyKad, or power of attorney document, without the presence of the actual owner;
- iii. constricting the process and procedures in the replacement of prepaid SIM cards; and
- iv. conducting an awareness programme and providing ample training for all customer service personnel (equipping them with FAQs, etc).

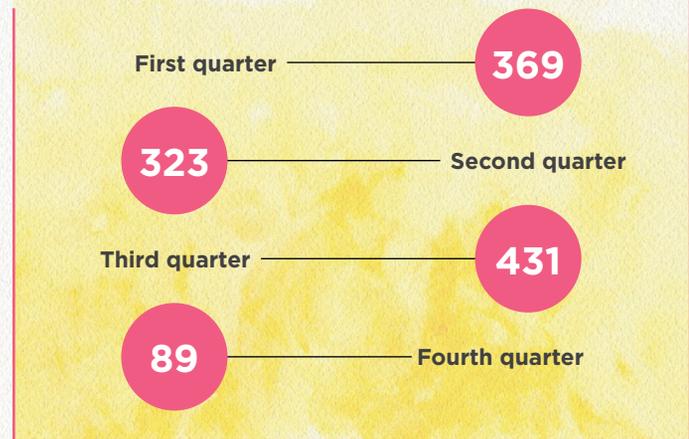
In the effort of seeking solutions to the predicament of prepaid SIM card replacement and registration, a workshop was held on 17 November 2016 with attendees from NGOs and government agencies.

Online Gambling Advertisements Using the Short Message Service (SMS)

A close monitoring was performed on 'Gambling Advertisements' which had been adopting the SMS method since 2015. This was in response to the sudden hike in the number of complaints received by MCMC Complaints Bureau during the fourth quarter of 2015.

The 2016 Statistics on the number of complaints regarding 'Gambling Advertisement' which exploits the SMS mode is summarised in the diagram below:

Statistics on the Total Number of Complaints on Gambling SMS in 2016



A discourse with telecommunication companies (telco) was one of the means to determine the root of the problem and dealing effectively with the issue. The discussion had succeeded in establishing an understanding between MCMC and all the telecommunication companies to activate the Anti-Spam Filtering in their respective SMS system.

The Anti-Spam Filtering incorporates three essential configurations, i.e. Keyword Blocking, Threshold Filtering and Number Blocking. Further elucidation on the Anti-Spam Filtering is recapitulated in the diagram below.

Essential Configurations of Anti-Spam Filtering



From the activation of Anti-Spam Filtering on Gambling SMS, there is a drastic decrease in the complaints received by MCMC Complaints Bureau by the forth quarter of 2016.

Active monitoring of Gambling Advertisement via SMS is persisting consistently to evade further abuse of the SMS.

Termination of Telephone Numbers

MCMC in collaboration with telecommunication service providers has once again helped the Local Authorities (PBT) in terminating the telephone numbers that are displayed in illegal advertisements. The act of terminating telephone numbers had already been initiated since early 2012, to which the PBT had made an official request to MCMC.

The issue of illegal advertisements had caught the PBTs' attention way back in 2009 when the move of putting up illegal advertisements was extremely active and prevalent to the extent of ruining the beautiful vista of the capital city and other municipalities in the country.

On its own accord, PBT had spared no exertion in heightening its surveillance and law enforcement (PBT by-laws) towards illegal advertisements that are pasted in public areas.

A Standard Operating Procedure (SOP) was issued by the Ministry of Urban Wellbeing, Housing and Local Government (KPKT) in collaboration with MCMC, to correlate and unify the entire working process.

Following are the statistics on the terminated telephone lines according to PBTs for 2016:

Statistics on the Termination of Telephone Lines by PBTs in 2016

No.	Agencies	No. of Submitted Cellular Lines	Total No. of Blocked Cellular Lines	No. of Inactive Lines
1.	Subang Jaya Municipal Council	200	179	21
2.	Klang Municipal Council	132	125	7
3.	Johor Bahru City Council	16	16	0
4.	Kota Kinabalu City Hall	60	60	0
5.	Yong Peng District Council	42	42	0
6.	Ampang Jaya Municipal Council	48	46	2
7.	Sibu Municipal Council	14	14	0
8.	Muar Municipal Council	13	13	0
9.	Kuala Lumpur City Hall	2,081	1,964	370
10.	Kuching South City Council	10	10	0
11.	Melaka Historic City Council	22	22	0
12.	Kubang Pasu District Council	75	75	0
13.	KPKT Sabah Branch	10	10	0
14.	PDRM Brickfields	12	12	0
	Total	2,735	2,588	400

CONSUMER PROTECTION

COMMUNICATIONS

Monitoring Network Quality of Service

In keeping with the advancement in communications technology and the consciousness in ascertaining that each service provider deliver the best service to every single user, MCMC is constantly monitoring on the quality of service based on the Mandatory Standards as constituted by the Communications and Multimedia Act 1998 (CMA 1998).

The monitoring conducted on Quality of Service (QoS) is segregated into three primary sections, which are:

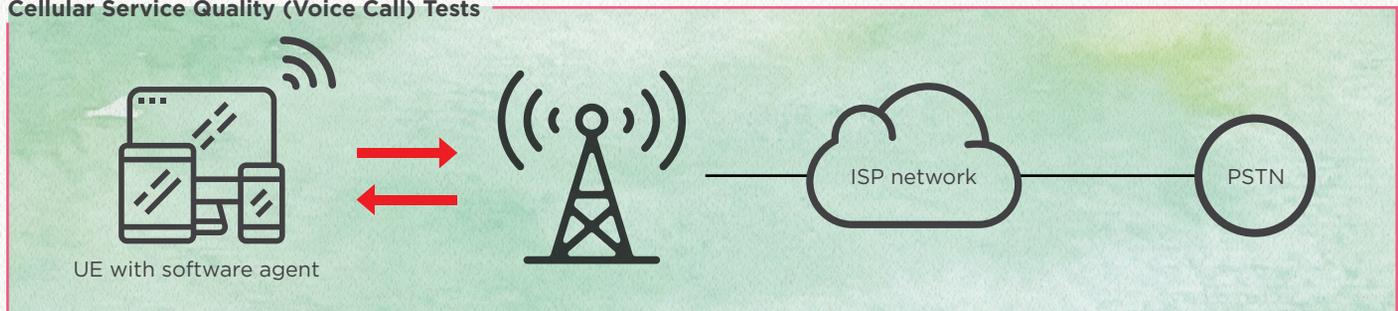
- i. Cellular Quality of Service (Voice Call) which to adhere to the Commission Determination on the Mandatory Standards for Quality of Service (Public Cellular Service) - Determination No. 1 of 2015;
- ii. Wireless Broadband Quality of Service in compliance to the Commission Determination on the Mandatory Standards for Quality of Service (Wireless Broadband Access Service) - Determination No. 1 of 2016; and
- iii. Wired Broadband Quality of Service which in conformance to the Commission Determination on the Mandatory Standards for Quality Service (Wired Broadband Access Service) - Determination No.2 of 2016.

Testing on Quality of Service were executed nationwide with a focus directed towards densely populated areas, industrial zones, tourist centres, shopping centres, main roads, highways and areas where service complaints are frequently reported. Such tests had called upon the cooperation from all MCMC's Regional Office.

Cellular Quality of Service (Voice Call)

In reference to the guidelines cited as the Commission Determination on the Mandatory Standards for Quality of Service (Public Cellular Service) - Determination No. 1 of 2015, the quality of cellular service is affirmed through a drive test and also a static test. Two technical parameters that are tested are the Call Setup Success Rate (CSSR) and the Dropped Call Rate (DCR).

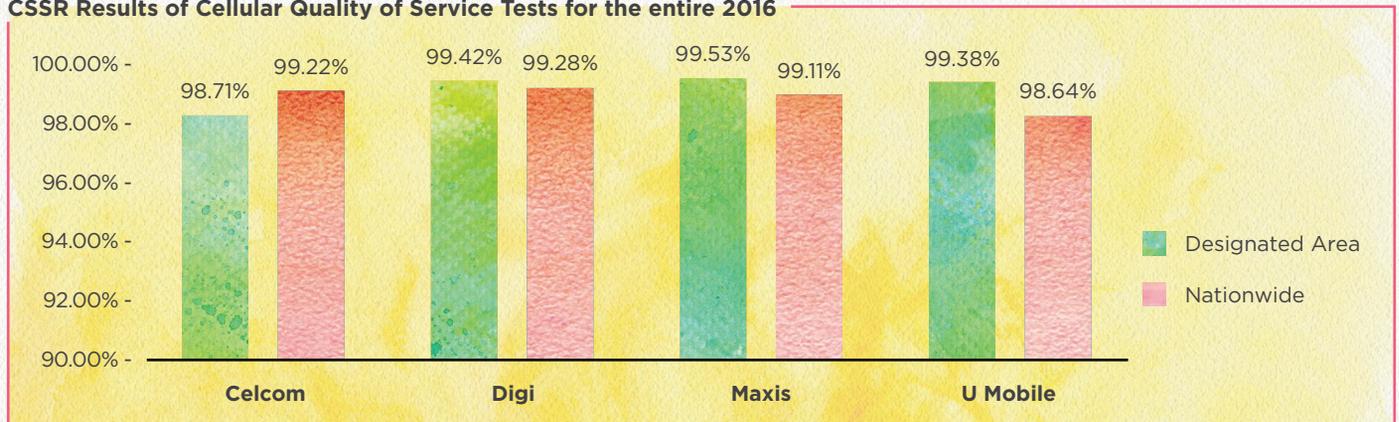
Cellular Service Quality (Voice Call) Tests



The cellular telephone will make a call to the PSTN number of each service provider using the same network. If the call is not connected within 20 seconds, the system will record it as a Blocked Call and this finding is used to get the CSSR result. On the other hand, if the call is disconnected within 120 seconds after the call is connected, the system will record it as a Dropped Call.

The CSSR test results conducted throughout 2016 for the Designated Area and Nationwide are as recorded in the chart below.

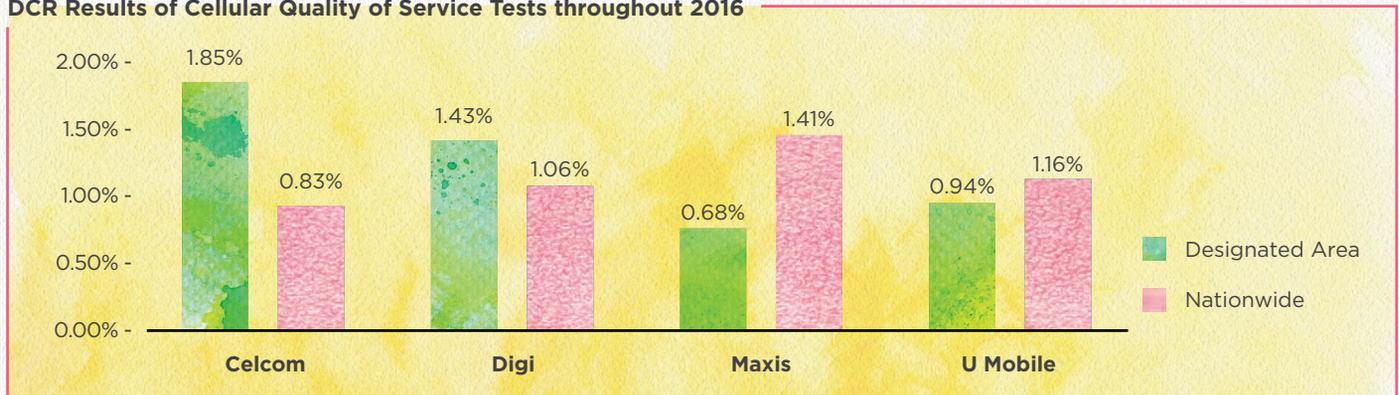
CSSR Results of Cellular Quality of Service Tests for the entire 2016



The results above showed that all the service providers had succeeded in adhering to the minimum CSSR benchmark level which was set above 95% from the overall total of trial calls made. Meanwhile, the average CSSR recorded for Designated Areas was 99.26 percent, whereas Nationwide was 99.06%. For reference, the estimated total number of calls made by each service provider throughout January till October 2016 was 1,700 for Designated Areas and 12,200 calls Nationwide.

The outcome of the DCR tests conducted for the entire year 2016 in Designated Areas and Nationwide are as presented in the bar chart below.

DCR Results of Cellular Quality of Service Tests throughout 2016



Given the DCR results as stated above, it is shown that all the service providers abide to the maximum mark of 2% for Designated Areas and 3% for Nationwide. On average, the DCR for Designated Areas reached 1.23% and Nationwide, the score was 1.12%.

The CSSR and DCR results are tabulated by taking into account the entire test which were carried out from January until December 2016. Testing in Designated Areas are performed on a monthly basis at predetermined sites. However, the testing approach for the Nationwide is slightly different, whereby the selected vicinity for each state is subjected to two tests in a year, or rather, every six months.

There are many factors which could affect DCR and CSSR, among which are:

- i. Handover Issues;
- ii. Low coverage areas;
- iii. Frequency interference;
- iv. The performance of cellular telephones; and
- v. Network capacity.

CONSUMER PROTECTION

COMMUNICATIONS

Appertaining to the quality of service tests undertaken, these factors will always be monitored by service providers to assure the network is in the best working condition.

Wireless Broadband Quality of Service

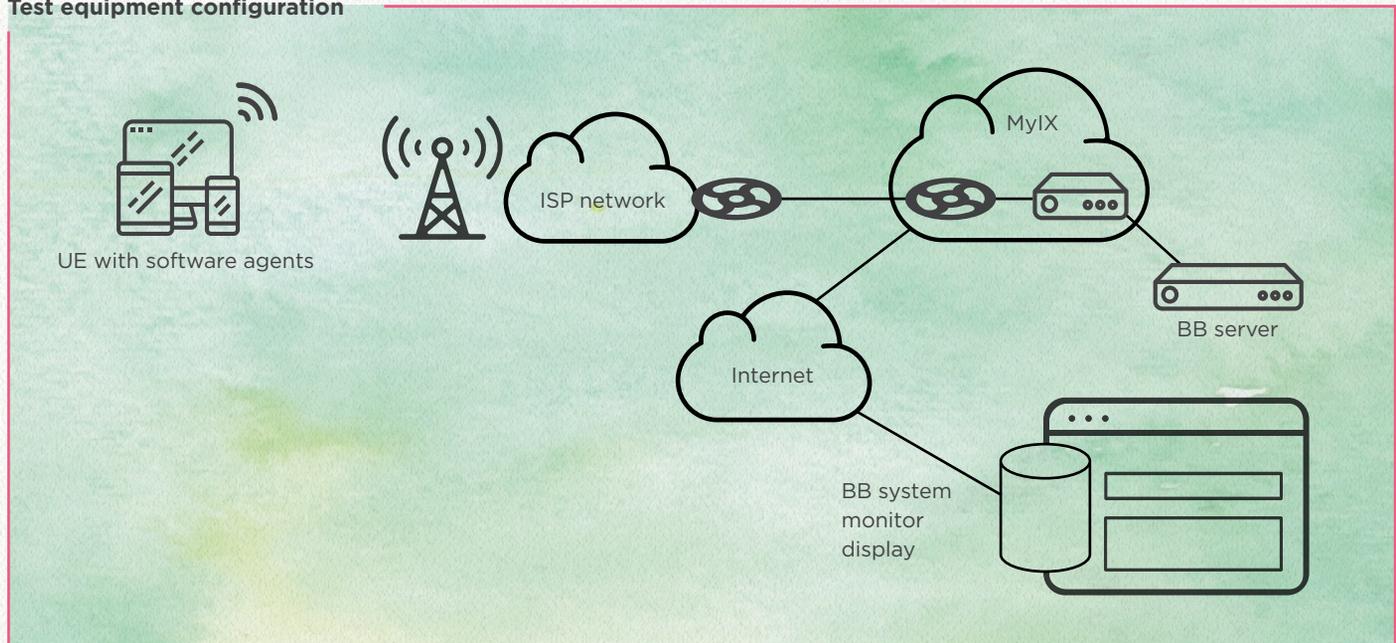
Going by the guidelines stipulated in the Commission Determination on the Mandatory Standards for Quality of Service (Wireless Broadband Access Service) - Determination No. 1 of 2016, the tests are conducted statically.

The location is chosen based on one of the following criteria:

- i. Confirmation of coverage from service providers;
- ii. By referring to the coverage information obtainable from the respective service providers' website;
- iii. From the network signal indicator found on test equipment, with the minimum RF signal of -90dBm or 3 bars; and
- iv. Based on users' complaints reported to MCMC.

The diagram below illustrates the test equipment that are utilised.

Test equipment configuration

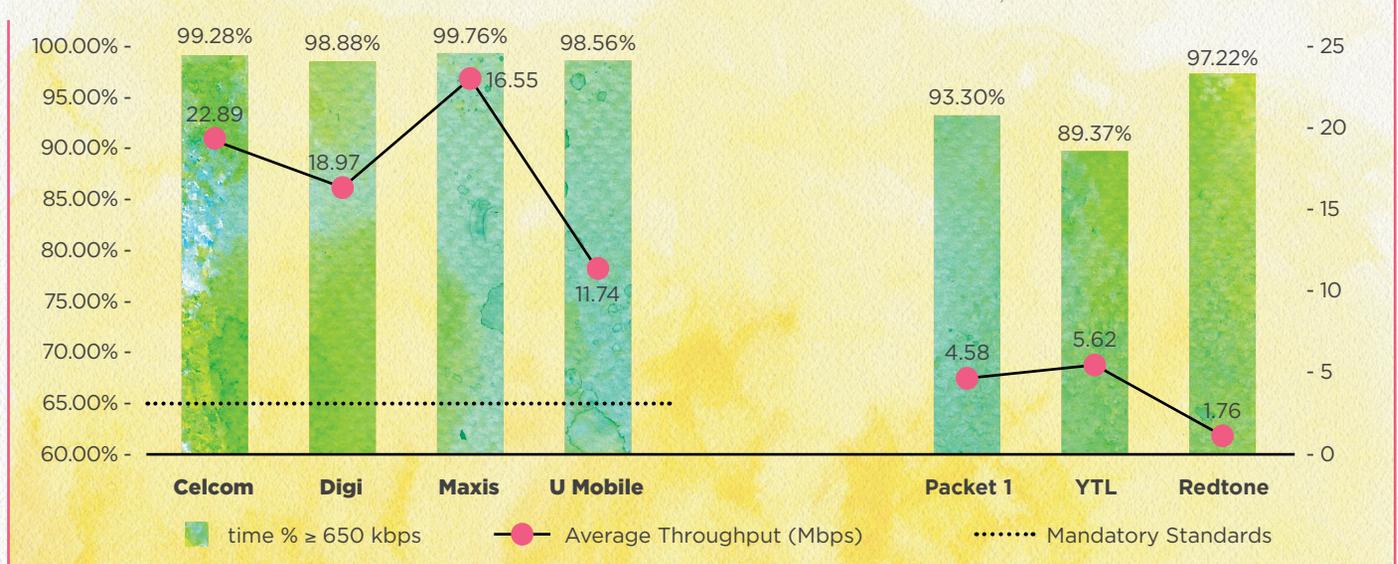


Three significant parameters that determine the benchmark for service performance and quality are as follows:

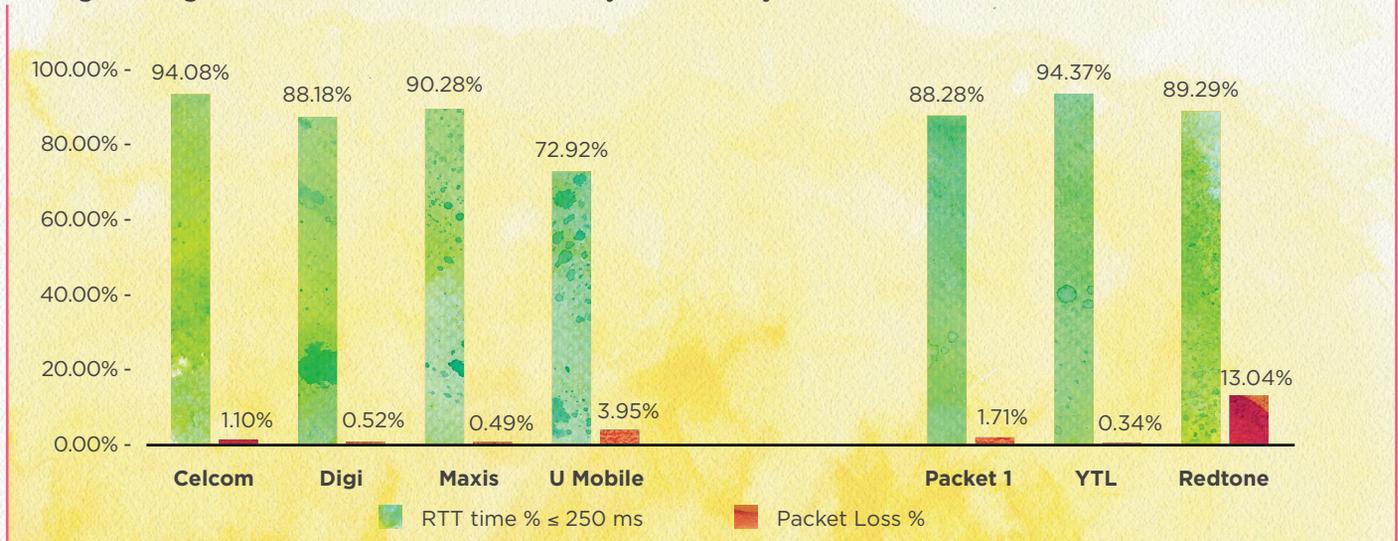
- i. Network Latency (Ping time);
- ii. Throughput Broadband Speed; and
- iii. Packet Loss

The charts below disclose the test results of Throughput, Network Latency and Packet Loss which were obtained throughout 2016 involving four FDD operators using the 3G and LTE technologies, while three other TDD operators employ the WiMax technology.

Findings on Throughput Test for Wireless Broadband Quality of Service by Service Providers for 2016



Findings on Ping Test for Wireless Broadband Quality of Service by Service Providers for 2016



The outcome from the Throughput test indicated that all seven service providers that were tested had surpassed the specified benchmark. On average, the FDD operators had attained 99.12% all throughout, whereas the TDD operators had achieved an average of 93.30% all the time, at a speed exceeding 650Kbps. Also, the average download speed were accomplished within a range of 11.74Mbps to 22.89Mbps for the FDD and 1.76Mbps to 5.62Mbps for the TDD.

As for the Ping test, all of the FDD and TDD operators had registered a score above 70% all through for Network Latency that does not exceed 250ms. The average percentage obtained by each operator throughout it all was 88.2%. In fact, the readings on Packet Loss were just as encouraging, with a percentage rate below 3%, except for U Mobile and Redtone. This is due to the fact that Redtone had a small sample count since it only offers its services in Sabah and Sarawak. Moreover, Redtone's results are based on tests that were conducted in Sarawak only.

To help the public gain a rough idea on the performance of the communications network based upon the tests initiated at selected locations, the full test results for both the cellular services (Voice and Broadband) will be published on the website.

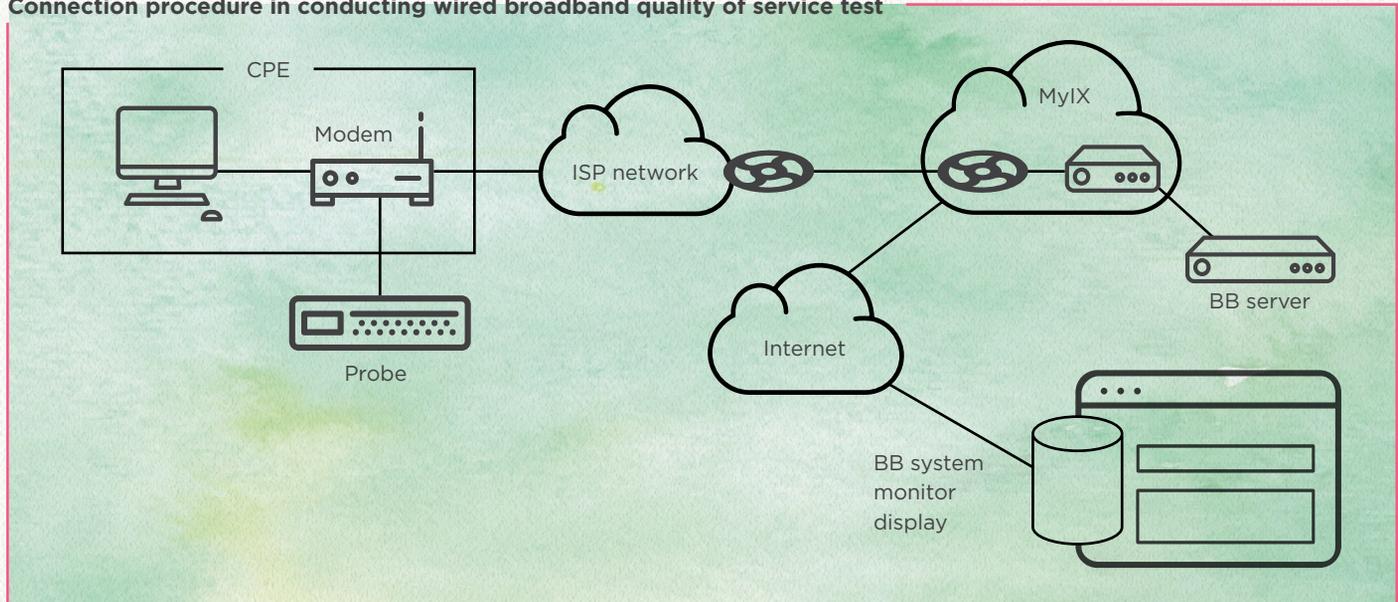
CONSUMER PROTECTION

COMMUNICATIONS

Wired Broadband Quality of Service

Tests were executed by connecting test equipment to the modem of the wired broadband user. This form of test is more arduous as it requires the setting of an appointment and obtaining permission from the respective owners before the connection takes place. The connection process is as depicted in the diagram below.

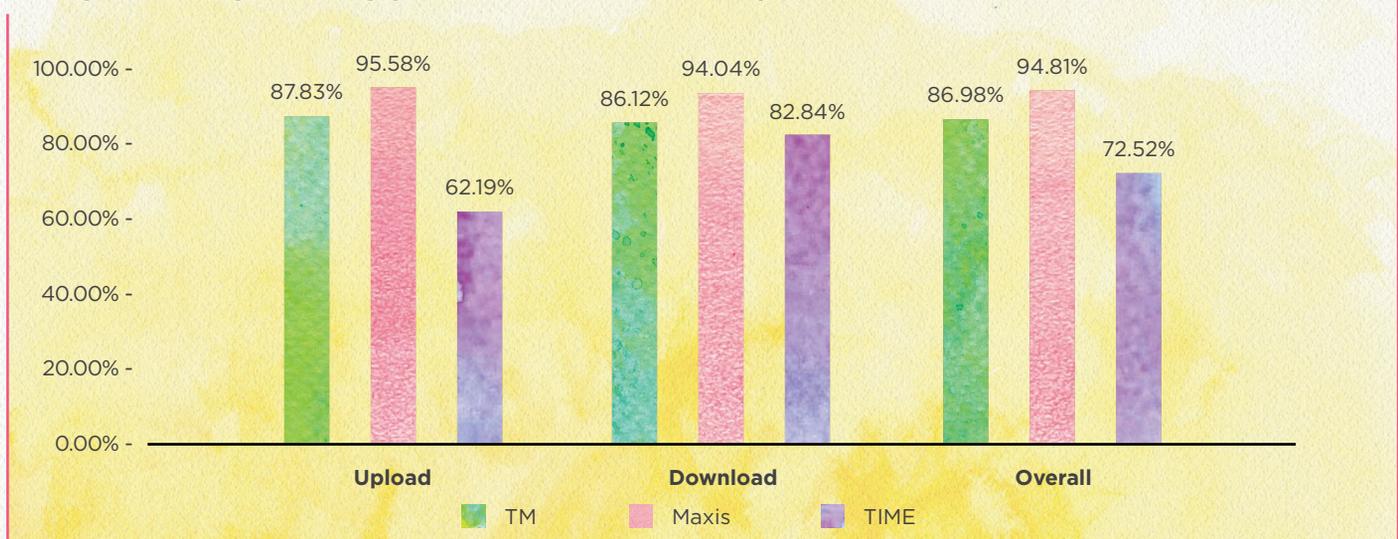
Connection procedure in conducting wired broadband quality of service test



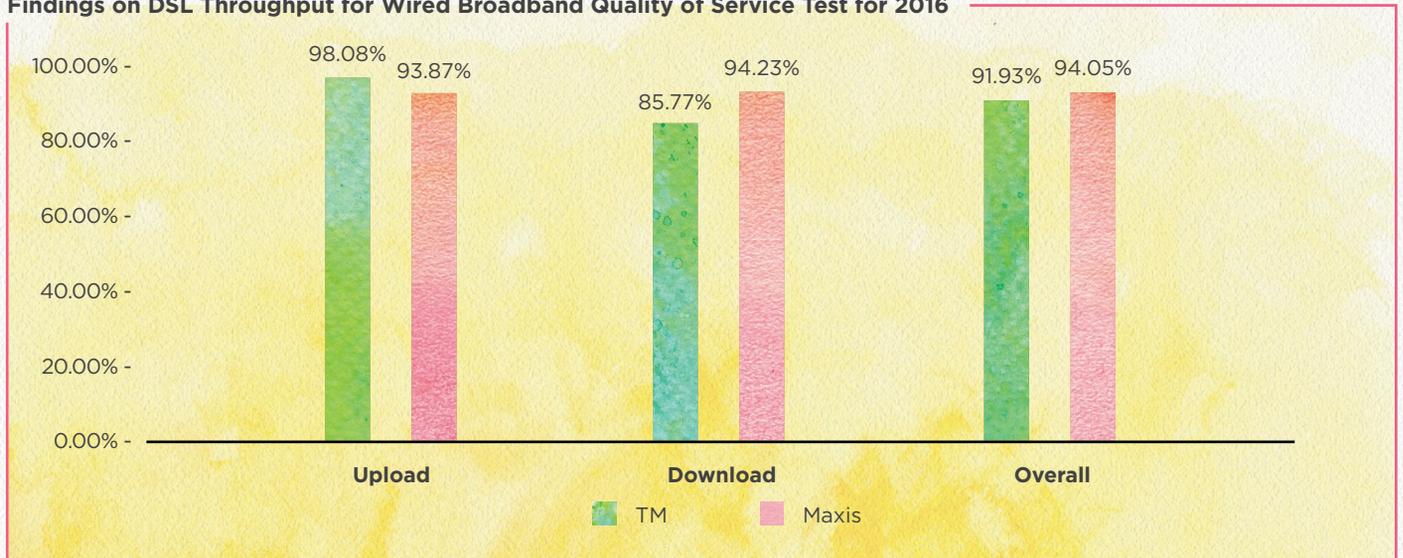
The evaluation of this wired broadband quality of service test is assessed by three important parameters which are Network Latency (Ping time), Throughput (Broadband speed) and Packet Loss.

There are two technological approaches in deploying the wired broadband service, that are Fibre Optic and DSL. Findings on the wired broadband tests for three main service providers, namely TM, Maxis BB and TIME are as stated in the charts below.

Findings on Fibre Optics Throughput for Wired Broadband Quality of Service Test for 2016

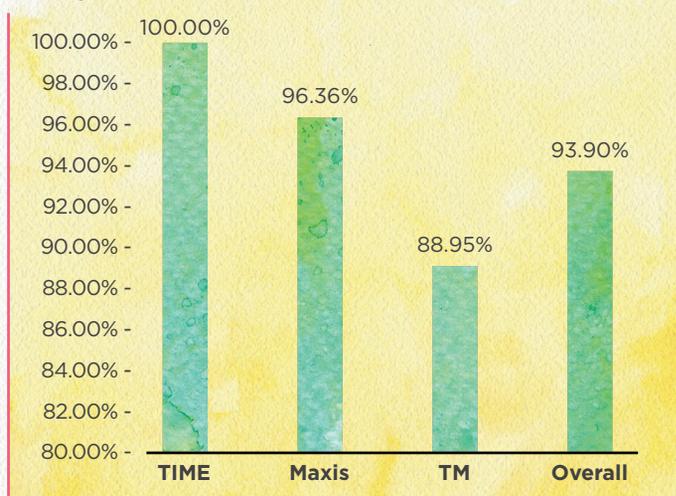


Findings on DSL Throughput for Wired Broadband Quality of Service Test for 2016

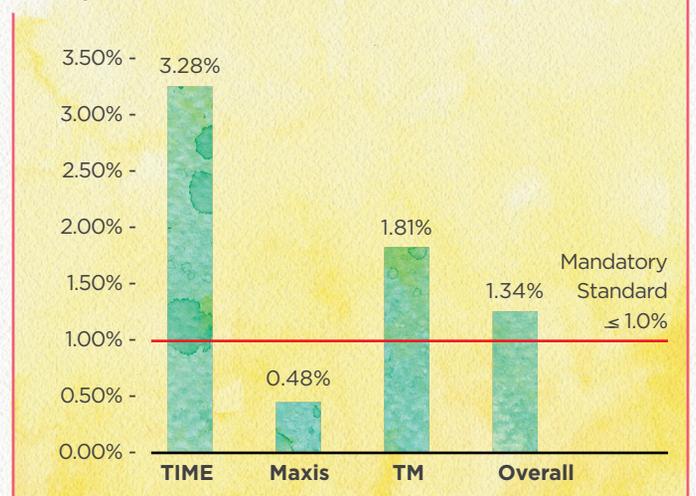


Results pertaining to Packet Loss and Network Latency are as displayed in the charts below.

Findings on Network Latency for Wired Broadband Quality of Service Test for 2016



Findings on Packet Loss for Wired Broadband Quality of Service Test for 2016



In relations to the outcome of the throughput which takes into account the average upload and download speed, only Maxis BB surpassed the 90% mark all through using the fibre optic technology, whilst both Maxis BB and TM had exceeded the 90% level all the time by employing the DSL technology.

On the other hand, findings on the Ping tests showed that Maxis and TIME had transcended the 95% minimum brink all through for network latency, whereas TM delivered a figure of 88.95%, which is below the minimal limit.

As for Packet Loss, Maxis once again showed favorable score of 0.55 percent, which is under 1% of the overall sample average. However, both TIME and TM recorded unsatisfactory results of 3.28% and 1.81% respectively.

The entire data of these tests are published in a report upon completion of all the tests which were scheduled from the beginning till the end of the year. The tests that were performed at chosen locations and the findings thereof, serve to inform the public and offer a rough idea on the performance of the communications network.

CONSUMER PROTECTION

BROADCASTING

REFINING THE FRAMEWORK AND REGULATORY PROCESS

In line with the CMA 1998 which requires the Content Applications Service Providers (CASP-I) Individual licensees to comply with the provision that has been adopted thereof, MCMC remain focused on its role which concerns social regulation by solidifying monitoring activities in the sphere of private television and radio network broadcast contents. Moreover, MCMC strives to elevate the conformance level of licensees in ascertaining the development of contents that depict the very fabric of Malaysian society, woven by its culture, identity and social norms.

Primary monitoring and compliance (broadcasting) activities in 2016



Monitoring TV and Radio Broadcast Contents

The Content Monitoring Centre (CMC) for television and radio broadcasting had commenced its operation in stages. CMC is outfitted with a wide range of equipment that are able to broadcast, record, store and extract recorded TV and radio broadcast contents from a variety of selected channels by operating 24 hours a day, seven days a week. Anchored by CMC's capabilities, it has spurred MCMC to execute in a more structured and systematic content monitoring. Besides, the time frame in retrieving contents for the purpose of addressing complaints is much shorter, while expediting the evaluation process.

Besides monitoring broadcast contents through CMC, monitoring by means of report submission on content compliance to Special License Conditions of the CASP-I is also imposed. This requirement entail licensees to forward their reports on a quarterly basis.



Content Monitoring Centre (CMC)

Monitoring the Quality of Service of Digital Terrestrial Television

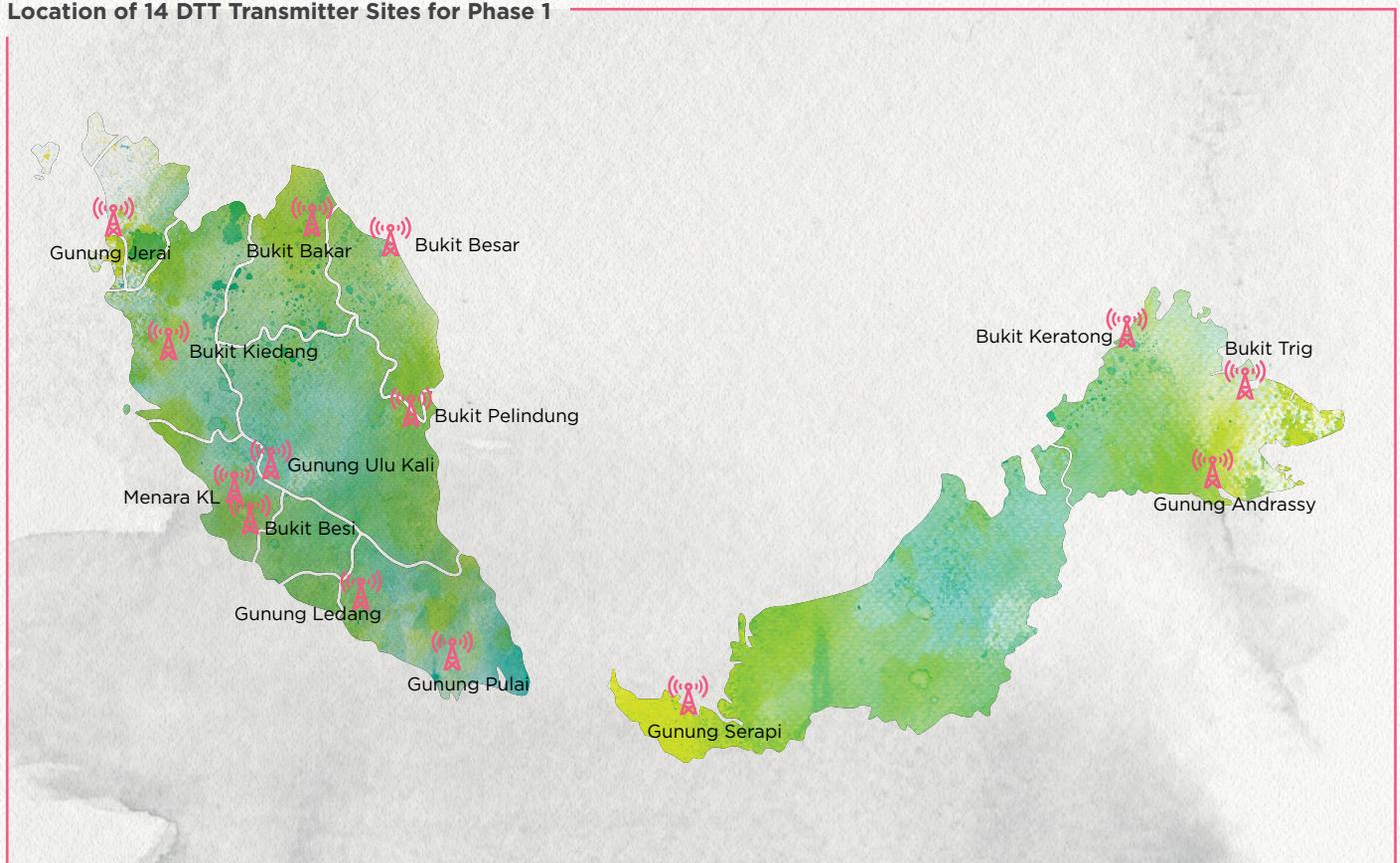
The entire Malaysia is in the midst of shifting from analog terrestrial broadcast to Digital Terrestrial Television (DTT). By virtue of this DTT project, the infrastructure and facility network that will be developed by MYTV in its initial stage constitute the digital multimedia hub as well as a high, medium and low powered digital TV transmitter network with the ability to cater up to 39 standard definitions or 13 high definition digital TV channels. However, in its final stage of migration to digital, Malaysia is expected to record a 75 percent coverage for indoor antenna reception and 25 percent for rooftop antenna reception.

Digital Terrestrial Television (DTT) Quality of Service

Measurement of the DTT Quality of Service was actualised in 2016, whereby it had commenced in March and was concluded in November 2016. The assessments were executed for several transmitter sites which had been identified in Peninsular Malaysia. The purpose of such measurement is to determine the reception level of coverage according to the measurement locality (test point).

For Phase 1, there were 14 transmitter sites involved in the DTT project to render coverage to households in Peninsular Malaysia, Sabah and Sarawak, as disclosed in the diagram below.

Location of 14 DTT Transmitter Sites for Phase 1



CONSUMER PROTECTION

BROADCASTING

Criteria in Selecting the Measurement Location (Test Point)

For each transmitter sites, there are between six to ten measuring locations that were chosen, founded on the following criteria:

- i. The tip of the coverage area;
- ii. RTM analog TV test points; and
- iii. Densely populated areas.

Against this backdrop, 71 test points were identified based on the reception coverage of nine transmitter sites. Measurement at the test points were conducted using the Mobile Monitoring System (MMS) vehicle that is equipped with AC213 antenna, Yagi antenna and TV Analyser. The table below summarises the details on the DTT coverage measurement.

Locations for DTT Quality of Service Measurement

Date of Measurement	Transmitter Sites	Regions	Coverage Locations	Total No. of Test Points
14-18 Mar	Ulu Kali, Menara KL and Bukit Besi	Central	Southern Klang Valley	3
28 Mar-1 Apr	Gunung Jerai	Northern	Kedah area	6
6-8 Sep	Ulu Kali, Menara KL and Bukit Besi	Central	Northern Klang Valley	6
27-30 Sep	Ulu Kali, Menara KL and Bukit Besi	Central	Western Klang Valley	6
12-19 Oct	Bukit Kledang	Northern	Ipoh area	10
12-19 Oct	Bukit Pelindung	Eastern	Kuantan area	10
26 Okt-2 Nov	Bukit Bakar	Eastern	Kota Bharu area	10
2 Nov-9 Nov	Bukit Besar	Eastern	Kuala Terengganu area	10
16-23 Nov	Gunung Pulai	Southern	Johor Bahru, Pontian, Pasir Gudang	10

Results from the measurements that were executed showed five out of seven locations that could not be decoded to digital audio and video. The list of locations involved and the causes that have been identified are presented in the table below.

Locations that could not be decoded to Digital Audio and Video

Name of Locations	Transmitter Sites	Areas	Cause
Nami Police Station	Gunung Jerai	Kedah	Blind spot area
Kg. Termas Hall	Gunung Jerai	Kedah	Blind spot area
SMK Gedangsa	Gunung Ulu Kali	Northern Klang Valley	Concealed by trees
Pekan Nenas Bus Station	Bukit Pelindung	Kuantan	Location is far from the site (75 kilometres)
Tokwan Linchang Mosque	Bukit Bakar	Kelantan	Blind spot area

To confirm the ability of MYTV's network in rendering more than 85 percent of digital TV coverage in Malaysia, the coverage measurement would therefore be expanded next year to the Gunung Ledang site as well as to the East Malaysia.

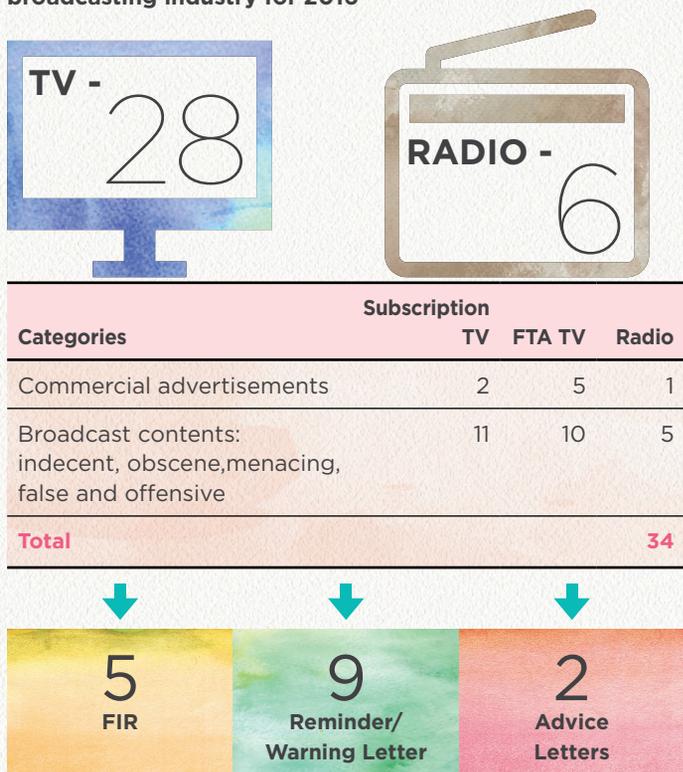
The outcome of all the measurements that were undertaken will be shared with MYTV for improvement purposes.

Complaint Management

In 2016, a total of 34 complaints related to television and radio broadcast contents were investigated by MCMC, in which 20 of the complaints were detected through internal monitoring. Apart from internal monitoring and complaints that were channeled by MCMC’s Consumer Complaints Bureau, there were also complaints referred by numerous government agencies like the Ministry of Communications and Multimedia Malaysia, Film Censorship Board, Ministry of Health and the rest.

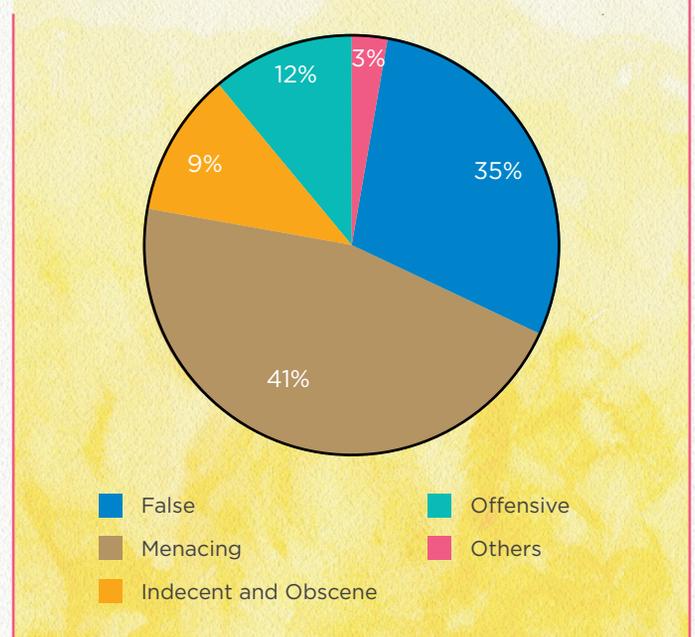
Of the total, complaints concerning broadcast contents from subscription television were the highest followed by Free to Air (FTA) television and radio.

Statistics on the total number of complaints in the broadcasting industry for 2016



The majority, which accounts 76 percent of the total complaints received, were reports on broadcast contents. Investigations were carried out on complaints which concern programmes that were claimed to be indecent, obscene, false, offensive, menacing, vulgar and numerous others, while another 24 percent of the grievances relate to commercial advertisements. These advertisements often involve the offense of advertising health products without prior approval from the Medicine Advertisements Board or food product advertisements which claim to have medicinal properties and much more.

Percentage of broadcast content complaints received by types of contents



Of the 34 complaints, five cases were issued with First Information Report (FIR) and referred to the Enforcement and Investigations Department under suspicion of breaching the provisions adopted thereof.

In its entirety, there was a 23 percent drop in the total number of complaints for 2016 as compared to 2015 which saw a count of 44 complaints. MCMC’s perpetual perseverance in organising extensive workshops have bore fruits of positivity in curbing the issues that arise among fellow broadcasters, apart from reinforcing the synergy with related enforcement agencies.

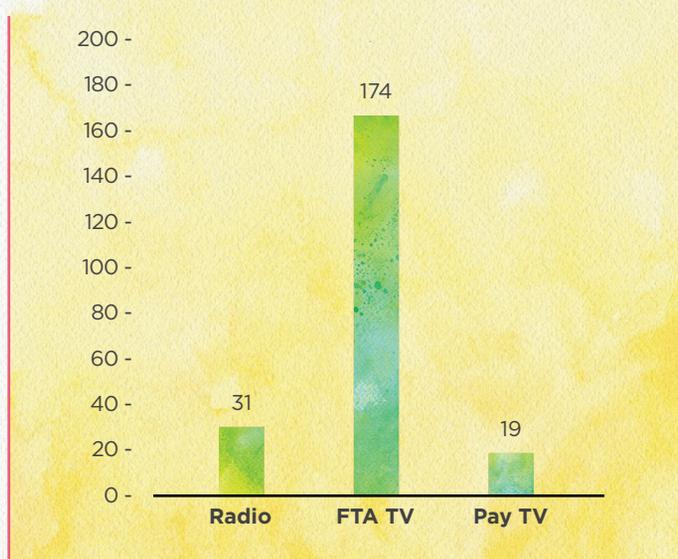
CONSUMER PROTECTION

BROADCASTING

Evaluations and Approvals of Live and Delayed Broadcasts

In 2016, as many as 224 applications were submitted for live and delayed broadcasts by pay television, terrestrial television (FTA) and terrestrial radio. Further segregation showed nine percent of the request were received from pay television, 78 percent from FTA television and the rest account for radio, as indicated in the chart below.

Total Number of e-LDTA received from TV and Radio Stations in 2016



Any request for live and delayed broadcast that are sent online by radio and television stations are subjected to thorough scrutiny by MCMC before it is approved. Live broadcast applied by respective radio or television stations are regulated by way of internal surveillance or by visiting the studio where the shooting takes place or the location of the live broadcast.

An online system, known as electronic Live and Delayed Transmission Application (e-LDTA) allows for an efficient execution of application and approval process for live and delayed broadcast.

Thereupon, it was most heartening when two crucial practices involving stakeholders were granted the ISO 9001:2008 Certification in October 2016. The validation is directed towards the broadcast content complaint management procedure and also, the LDTA application procedure.

ELEVATING THE LEVEL OF COMPLIANCE BY THE LICENSEES

Capacity Development and the Industry Awareness

In ensuring the effectiveness of the regulatory governance within the broadcasting fraternity, MCMC has built the bridge of cooperation which translates into strategic partnership with certain ministries and government agencies such as KKMM, Ministry of Home Affairs (KDN), Ministry of Health Malaysia (KKM), Ministry of Domestic Trade, Cooperatives and Consumerism (KPDNKK), Film Censorship Board (LPF), Department of Islamic Development Malaysia (JAKIM) and the Communications and Multimedia Content Forum of Malaysia (CMCF).

One such effort in the pursuit was organising a workshop titled 'Promotion of Medicinal, Food and Cosmetic Products' which was held in Port Dickson, Negeri Sembilan. Effectuated through collaboration with the Ministry of Health Malaysia (KKM), it served to elucidate to fellow broadcasters of private radio and television on the necessity of getting KKM's approval before the promotion on medicinal, food and cosmetic products are advertised through the respective radio and television stations. The workshop was conducted in response to the many complaints received from the public.



Some of the participants who took part in the workshop held in Port Dickson, Negeri Sembilan



Workshop on 'Promotion of Medicinal, Food and Cosmetic Products' conducted in Port Dickson, Negeri Sembilan

'Evaluation and Screening of Television Content' was another subject matter brought to the fore in the ensuing workshop which took place in Belum, Perak. Working hand in glove this time around with JAKIM and LPF, under the auspices of KDN, the discourse was aimed at magnifying the broadcasters' degree of comprehension relating to content sensitivity shown on television which is worthy of earnest consideration in its screening for public viewing.

On the whole, the workshops were successful in fulfilling its mission and the feedback from participants on the efficacy of the contents articulated by fellow strategic partners, was very reassuring. Such workshops will proceed from time to time with the hopes of fortifying broadcasters' self-regulation.

Aside from workshops, internal capacity development programmes were also administered in arrangement with CMCF and MCMC staff. The drive was intended to bolster understanding in managing and handling content propagation issues with the electronic network as its medium.

In view of this, MCMC sees the need to forge closer ties with other government agencies such as KKM, JAKIM and LPF, and therefore, fully utilising its participation in joint meetings with enforcement and regulatory committees.

REGULATORY ENHANCEMENT INITIATIVES

Online System for Broadcasting Compliance Report

The speed at which communication technology is advancing in the broadcasting industry had engendered a more effective and efficient monthly reporting system for licensees to comply with the Content Applications Service Provider (CASP-I) Individual license terms.

The online system for Broadcasting Compliance Report (BCR) was devised to replace the manual system which was adopted prior to this, as a means to facilitate CASP-I licensees in the submission of their respective reports to MCMC, while simultaneously reducing paper consumption. The fact is, it also eases the process of accessing a variety of information related to the conformance of license terms which can be done swiftly and efficiently.

Amendments to the Live and Delayed Broadcast Guidelines

In consequence to the improvements in the application process from its former manual method to an online system of electronic Live and Delayed Transmission Application (e-LDTA), several sections of the LDTA Guidelines 2006 are no longer applicable.

Amendments that were carried out comprises amendments to the existing conditions following changes in the application process and addition of new conditions. The amended/updated guidelines or the LDTA Guidelines 2016 shall be adopted by fellow licensees who have to obtain written approval from the MCMC for live and delayed transmission under the CASP-I Special License Conditions.

CONSUMER PROTECTION

MALAYSIAN COMMUNICATIONS AND MULTIMEDIA FORUMS

COMMUNICATIONS AND MULTIMEDIA CONSUMER FORUM OF MALAYSIA

Under the auspices of MCMC, the Communications and Multimedia Consumer Forum of Malaysia (CFM) is responsible for protecting the rights of consumers in the communications and multimedia industry, besides being tasked with preparing the consumer Code, which will be used as the basic guidelines by communications and multimedia service providers in rendering their respective services.

CFM also takes on the role of a facilitator for consumers in channelling their complaints and enquiries pertaining to the telecommunications services that they are getting. In 2016, the total number of complaints had reached 8,633 and out of this figure 7,556 were grouses directed towards service providers, in which it saw a hike of 3.14% from previous year's count of 7,326. Balance of the share, being 1,077 or 12.5% are categorised as first level complaints, similar complaints and issues beyond the grasp of CFM's jurisdiction, such as online purchases, Facebook and postal services.

It augurs well to note that the performance in solving issues within a period of 15 working days had improved from 72% to 77%. Further analysis showed 48% or 3,267 complaints were addressed within a seven working day period, while a total of 2,191 or 29% of complaints were resolved between 8 to 15 working days. Overall review on the performance revealed that 90% of the total complaints received were settled within 30 working days.

Statistics on the total number of complaints by categories in 2016

Complaint Categories	2015	Difference (%)	2016
Billing and Charges	2,133	36.62	2,914
Quality of Services	3,070	-18.37	2,506
Quality on Coverage	574	7.84	619
Unfair Practices	225	96.44	442
No Coverage	291	38.83	404
SMS	630	-43.81	354
Confusing Promotions	253	-3.95	243
Dispute over Terms and Conditions	28	71.43	48
MMS	87	-85.06	13
Telecommunications Equipment and Towers	2	150.00	5
Others	27	-85.19	4
Miscellaneous	6	-33.33	4
Total	7,326	100.00	7,556

An analysis based on of the complaint categories indicated that matters relating to billing and charges, quality of services and quality of coverage composed 70 percent of the total complaints to CFM. Deeper scrutiny into these classifications revealed issues on bill disputes, service interruptions, connection quality or internet speed, mobile phone coverage quality as well as unfair practices. Conversely, CFM had also registered 26 acts of compliance to complaints and advertisement promotions.

To facilitate and easing consumers in putting forth their complaints, CFM has created access to a complaint portal through a mobile website, hence enabling the public to send their complaints using the smart phone.

The year 2016 saw CFM's Corporate Division holding numerous meetings to further deliberate and determine CFM's fundamental direction. These meetings included Council Meetings which were held at least once every two months and serving as a platform for Council members to meet and discuss matters regarding the industry, as well as issues plaguing consumerism.

Living up to the Consumer Empowerment Plan 2014-2017 as aspired by MCMC, CFM had developed MY Mobile Rights (MMR) telephone application. This application was conceived to endow consumers with the ability to make reports, search for tips and guides, as reference for package list and locations of service providers. In a nutshell, it is a one-stop application for consumer complaints to service providers.

Along with that, CFM has expanded its awareness campaign by emphasising on a wider and more comprehensive group of demographics which cover urbanites and rural communities, as well as Malays and non-Malays. Impelled by the need to further engage with the people, CFM has also directed its focus on the development of digital contents targeted towards online consumers who are not reachable through CFM's existing programmes. On that account, 11 campaigns were administered by means of the social media, thus adding colour and variants in its quest for closer engagement and interaction with the masses.

Total increment of followers in the social media

Platform	2015	2016	% Increment
Facebook	15,380	54,543	255%
Twitter	540	745	38%
Instagram	750	3,089	312%

2016 was also marked as the year for CFM membership activation. This act is in tandem with the objectives of establishing a few bureaus in CFM, pursuant to the constitution, one of which dictates membership empowerment by enrolling new members. Going by the statistics, this mission was duly accomplished with the rise in CFM membership as witnessed by the entree of new members which comprises five supply members (telecommunication companies), one demand member and one associate member.

THE COMMUNICATIONS AND MULTIMEDIA CONTENT FORUM OF MALAYSIA

The establishment of the Communications and Multimedia Content Forum of Malaysia (CMCF) in 2001 has marked the beginning of an era for the electronic content industry as it allows Malaysia to ride the new waves in regulatory process.

Premised on the concept of self-regulation, CMCF ventures forth to create an element of equilibrium in the monitoring and regulatory frameworks for the communications and multimedia industry.

Guided by the distribution of powers as contained in the Malaysian Communications and Multimedia Act 1998 (CMA 1998), CMCF has been mandated to regulate the electronic content industry through self-regulation as opposed to just governmental control which was enforced prior to it.

With the hopes of attaining this aspiration, the Malaysian Communications and Multimedia Content Code (Content Code) was registered in September 2004. It began to be adopted by industry practitioners who were leveraging the dynamic phase in electronic content industry, which was as a matter of fact, perceived to embody the quality of a game changer, whereby enabling all industry practitioners to be inventive, anchored by the standards espoused by all industry players, especially seen through the eyes of government regulatory authorities.

By providing the component of solution or resolution to any problems for complaints received, and duly handled by the CMCF Complaints Bureau, as featured in the Content Code, is a fitting opportunity to nurture progress in industry proficiency within the context of current standards and creativity levels which are constantly evolving.

Against this backdrop, 2016 can be considered the best year for CMCF as the industry's organisational body. After 15 years in operation, CMCF has emerged as a crucial player in setting the trajectory of progress for the industry and being a self-regulating body that also stands as a referential organisation for the networked electronic content industry in Malaysia.

To effect the desired change, in January 2016, CMCF was invited and requested to render training and briefing regarding self-regulation and the use of Content Code to industry practitioners.

Continuing its vocation in industrial training, CMCF spearheaded a preliminary training for Media Prima Berhad on 28 January 2016 which saw the attendance of a majority of the company's workforce who are the actual movers and shakers of electronic media.

This was followed by CMCF's appearance on 29 January 2016 at a special programme organised by the Malaysian Advertisers Association (MAA). Being the self-regulation expert in electronic media content, the topic of discussion was "MAA Forum - Self-Regulation in Malaysian Advertising Keeping It Legit".

As with previous years, CMCF received cohesive support from its members who had contributed time and expertise in their respective fields. Their invaluable input has managed to magnify CMCF's capabilities in handling any issue that arises or even in developing new policies in the spirit of advancing the country's electronic media content industry.

CONSUMER PROTECTION

MALAYSIAN COMMUNICATIONS AND MULTIMEDIA FORUMS

Membership count in 2016 gave a total of 47 organisations from diverse categories. Of this, 18 leading representatives help shape the CMCF Council by being its members which is headed by a Chairman.

CMCF Membership List 2016

No.	CMCF Members
1.	Malaysia Advertisers Association
2.	Association of Accredited Advertising Agents Malaysia
3.	Recording Industry Association of Malaysia
4.	Malaysian Association of Advertising Film Makers (PPFIM)
5.	Commercial Radio Malaysia
6.	Maestra Broadcast Sdn Bhd
7.	Astro Radio Sdn Bhd
8.	Measat Broadcast Network Systems Sdn Bhd (ASTRO)
9.	Sistem Televisyen Malaysia Bhd
10.	Natseven TV Sdn Bhd
11.	Metropolitan TV Sdn Bhd (8TV)
12.	Ch-9 Media Sdn Bhd (TV9)
13.	Timedotcomm Sdn Bhd
14.	Telekom Malaysia Berhad
15.	Maxis Mobile Services Sdn Bhd (Formerly known as Malaysian Mobile Services Sdn Bhd)
16.	Celcom Technology (M) Sdn Bhd
17.	YTL Communications Sdn Bhd
18.	TMNet Sdn Bhd
19.	Universiti Utara Malaysia
20.	U Mobile Sdn Bhd
21.	Star Rfm Sdn Bhd
22.	Media Specialists Association
23.	Star Publications (M) Sdn Bhd
24.	Primeworks Studios Sdn Bhd
25.	InfoBip Asia Pasific Sdn Bhd
26.	Asian Broadcasting Network (M) Sdn Bhd
27.	Rimakmur Sdn Bhd
28.	Kapital FM
29.	Alt Media Sdn Bhd
30.	Association of the Computer and Multimedia Industry of Malaysia (PIKOM)

31.	Vads Bhd
32.	Dapat Vista (M) Sdn Bhd
33.	Online E-Club Managemnt Sdn Bhd
34.	Aims Data Centre Sdn Bhd (Formerly known as Applied Information Management Services Sdn Bhd)
35.	Malaysian Screen Industry Sdn Bhd (MSI)
36.	Shinjiru Technology Sdn Bhd
37.	My Domain Registry Bhd
38.	Cybersecurity Malaysia Malaysian
39.	Mobile Content Providers Association (MMCP)
40.	Procter & Gamble (M) Sdn Bhd
41.	Colgate Palmolive (Malaysia) Sdn Bhd
42.	Nestle Products Sdn Bhd
43.	Unilever (M) Holdings Sdn Bhd
44.	Universiti Putra Malaysia - Communications Department, Faculty of Modern Languages and Communications
45.	National Council of Women's Organisation
46.	National Union of Teaching Profession Malaysia
47.	Fonterra Brands (M) Sdn Bhd

CMCF's agenda also include organising programmes in schools, and for that matter, not less than six awareness events involving both primary and secondary students were held. The content of these programmes were more directed towards the importance of self-control in accessing internet contents. Based on discussions between CMCF and school counselors, it was deduced that year six to form three students are more susceptible to being influenced and ensnared by wrongdoings on the internet. Hence, CMCF's briefing to students and teachers had focused on self-control and internet safety.

Further to that, CMCF also conducted activities with students to gauge their level of understanding from the briefings that were delivered. All through these endeavours, CMCF stayed true to the concept of prudent spending by fully utilising the equipment provided by the respective schools.

It is truly hoped that the awareness campaign had fulfilled its purpose of impacting the youths, especially on the aspect of being cautious and perpetually responsible for the contents that are to be disseminated and accessed.

MONITORING AND ENFORCEMENT

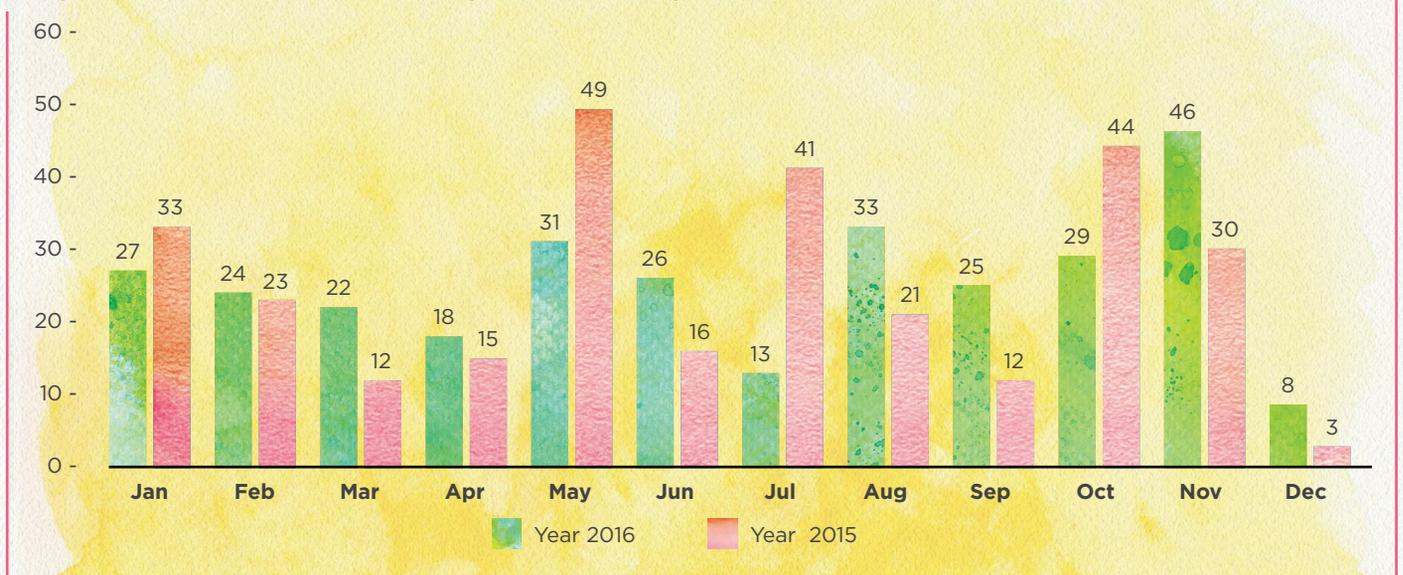
COMPLAINTS AND INVESTIGATIONS

HANDLING OF COMPLAINTS

MCMC through the Enforcement and Investigation Division (EID) has received 302 complaints throughout of 2016. This quantity speaks of one percent increment or three additional complaints as compared to the same period in 2015. Particulars on the source of complaints are as indicated in the chart below.

- i. 295 complaints were received from MCMC's internal departments; and
- ii. Seven other complaints were forwarded by other enforcement agencies such as the Royal Malaysia Police (PDRM).

Comparisons in the total number of complaints received by the EID in 2015 and 2016



Complaints and Investigations under Section 233 CMA 1998

Offences committed under section 233 of the Communications and Multimedia Act 1998 (CMA 1998) took centre stage in investigative operations for 2016. In relation to this, 194 complaints were received concerning inappropriate use of network facilities or network services for the purpose of sending obscene, indecent, false, menacing or offensive communications. The act of transmitting such improper communications by dint of social networking sites as its medium, was rated the highest at 69.6 percent or 135 complaints, whereas unsuitable use of blog sites registered the lowest number of objections by receiving just four complaints, at the rate of 2.0 percent.

Total number of complaints according to categories and types of offences in 2016



MONITORING AND ENFORCEMENT

COMPLAINTS AND INVESTIGATIONS

Mindful of the gravity of the situation, a Special Committee on Eradicating Social Media Abuse was established in January 2016. Chaired by the Minister of Communications and Multimedia, its members comprise of the Ministry of Communications and Multimedia Malaysia, Royal Malaysia Police, MCMC and the Attorney General's Chamber.

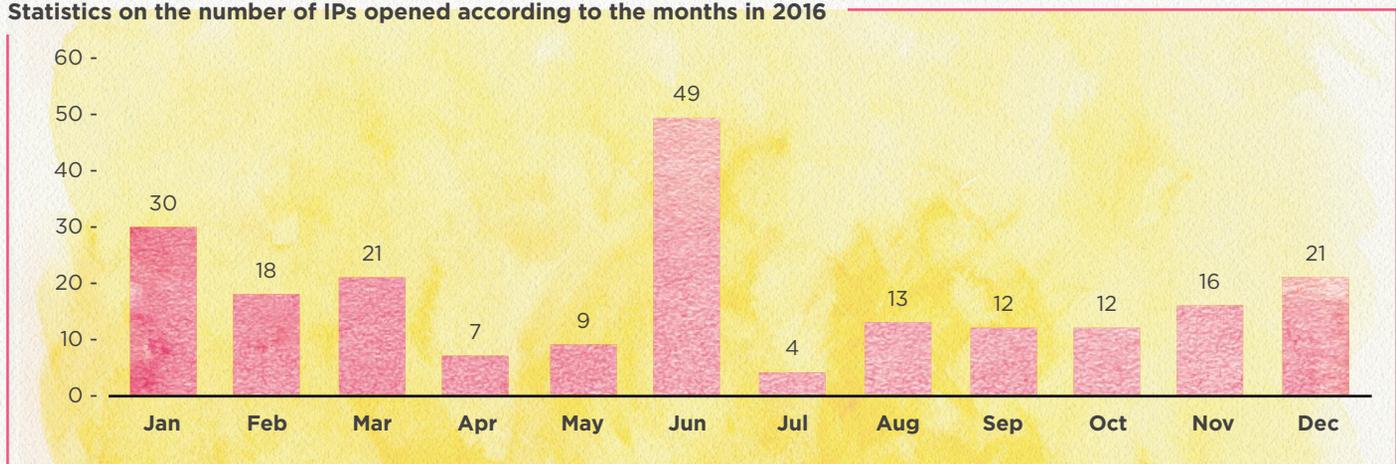
The main function of this Special Committee is to ensure that firm action is taken against those who abuse the social media and exploiting it as a tool for malign, spreading nasty propaganda and planting seeds of hatred towards the Monarchical Institution, the country's leadership, religion and race or descent as well as spreading IS or terrorist ideologies. All these are driven by the intent to avoid social media from being misused as a channel to instigate unrest, obliterate moral values and undermining the public's well-being.

Just as crucial, the Special Committee is also commissioned to make certain that efficient investigations and enforcement are carried out by invigorating the links of cooperation, sharing information and expertise between the agencies that are involved.

INVESTIGATION MANAGEMENT

In 2016, a total of 212 Investigation Papers (IP) were opened based on the complaints received. Throughout the year, the month of June saw a peak in the opening of IPs which accumulated to 49 IPs or reaching 23.1% from the overall figure.

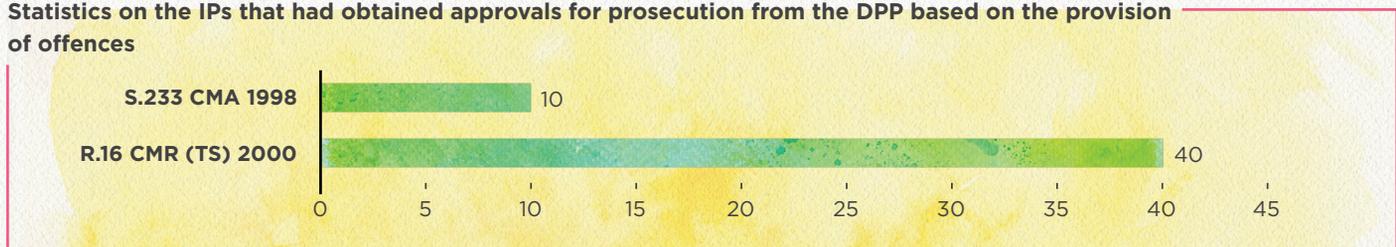
Statistics on the number of IPs opened according to the months in 2016



Prosecution

As many as 50 IPs had obtained indictment approvals from the Deputy Public Prosecutor (DPP). Out of this total, 35 cases had been sentenced by imposing a total fine of RM287,000.00, while eight cases were still in the process of trial and the balance of seven cases were in the midst of preparing the prosecution papers. The range of fines imposed by the court for each case is between RM1,000 to RM20,000.00.

Statistics on the IPs that had obtained approvals for prosecution from the DPP based on the provision of offences



MONITORING AND ENFORCEMENT

COMPLAINTS AND INVESTIGATIONS

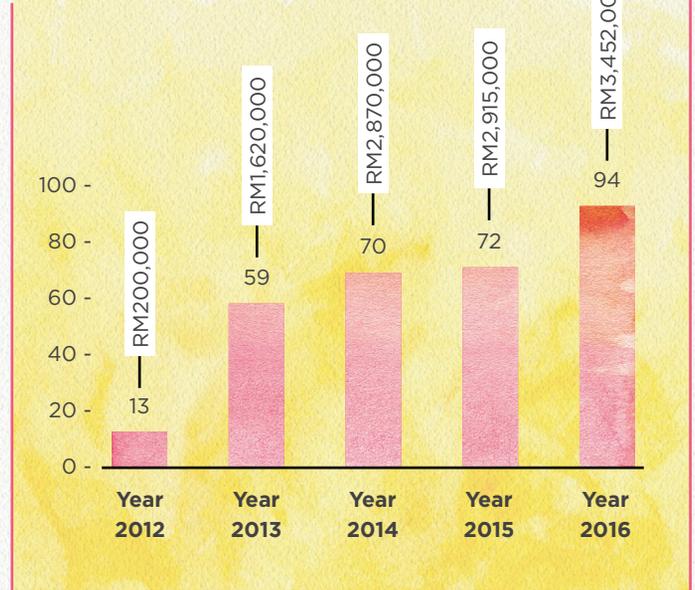
A prosecution that caught the attention of the mass media in 2016 was a case investigated under the Working Committee on Eradicating Social Media Abuse. The case concerns the improper use of network facilities or applications service for the purpose of creating and initiating the transmission of communication that is false or offensive in character towards the Monarchical Institution and government leaders over the social networking site.

Offer to Compound Offences

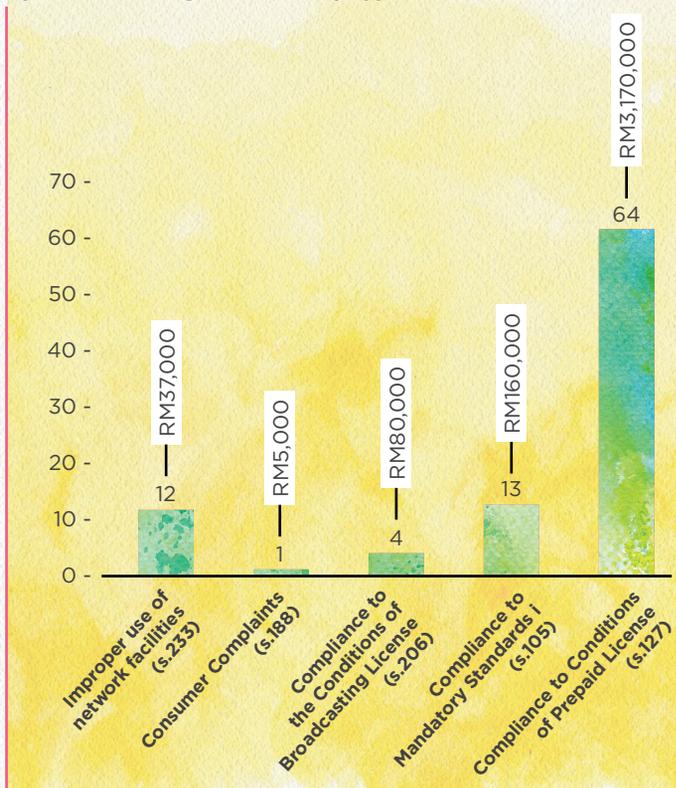
In breach of the provision stipulated under the CMA 1998, and the subsidiary law made under the act, a total of 94 offers to compound such offences valued at RM3,452,000.000 were issued by MCMC.

Of that amount, 12 compound offers were issued by MCMC to 12 individuals for offences that they had committed under section 233 of the CMA 1998.

Comparisons in the number of offers issued to compound offences and the compounding amount for the years 2012-2016



Statistics on the Offer to Compound Offences issued by MCMC throughout 2016 by types of offences



No Further Action

Going by EID's probe on the complaints received, there were 40 out of 302 total complaints being classified as No Further Action (NFA).

The main constraint confronting EID, PDRM and other enforcement agencies in detecting and identifying suspects stems from the bogus information given during the registration of prepaid SIM card. The seriousness of the issue had called for strict monitoring of the dealers appointed by service providers. This is in addition to conducting continuous awareness programme to ascertain the Guidelines on Registration of End Users of Prepaid Public Cellular are consistently adhered to.

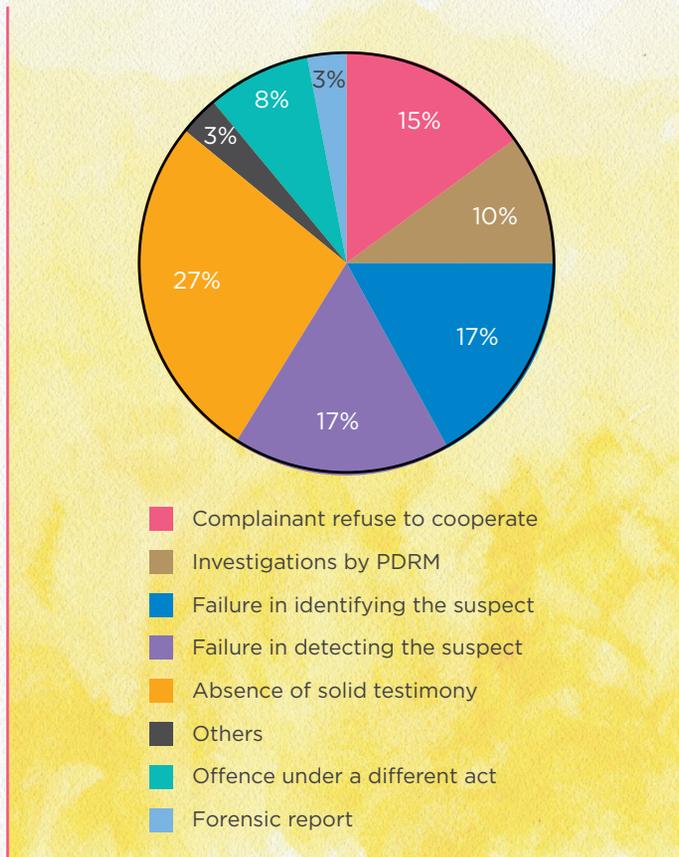
MONITORING AND ENFORCEMENT

COMPLAINTS AND INVESTIGATIONS

Other contributing factors which hindered further investigations were due to:

- i. the complainant's reluctance to cooperate, whether by showing up for a recorded conversation or handing over their respective handphones for digital forensic analysis;
- ii. the content that was reported does not fulfill any elements or the gist of offence under the CMA 1998;
- iii. the absence of solid testimony to convict the suspect with the said offence; and
- iv. the offence that was complained about is outside the CMA 1998 jurisdiction.

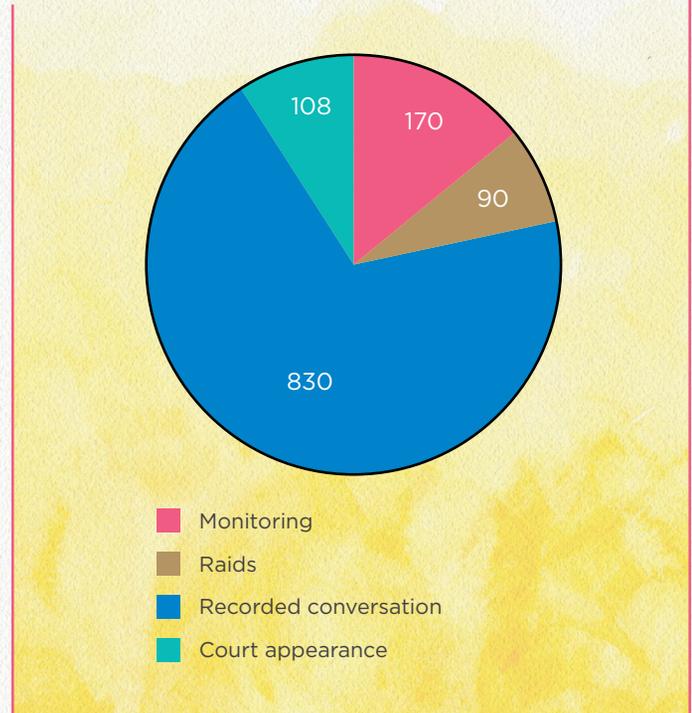
Statistics on the complaints classified as NFA



Investigation Activities

Below is the list of EID's activities throughout January till December this year:

Statistics on EID's investigation activities



EID was also involved in a number of activities which were jointly organised with SIRIM and the Monitoring and Compliance (Communications) Department, MCMC. Among the ventures were the MCMC Day with SIRIM and the Prepaid SIM Card Registration Audits which were conducted on a grand scale in the Northern and Sabah regions.

DIGITAL SURVEILLANCE

In conformity with one of the agendas contained in the National Policy Objectives, and as embodied in the Communications and Multimedia Act 1998 (CMA 1998), places MCMC, through its Digital Surveillance Division, in a crucial role of ascertaining that information security and network reliability and integrity is duly realised. With this in mind, discharging well-laid plans and directing its effort towards cyber security in Malaysia comes into play.

ISO 9001:2008 Certification for Service Quality in Multimedia and Telecommunications

The effort it took for the Digital Surveillance Division to establish, document, implement and maintain a quality management system that is consistent with the ISO 9001:2008 standards for Service Quality in Multimedia and Telecommunications, had begun in early 2016. The undertaking was incited by the need to elevate competency in management and quality deliverance as a means of satisfying the needs of MCMC's stakeholders.

Attaining such standard had warranted the administration of internal audits on related departments, including the Network Media Management Department and the Network Monitoring Department. Eventually, on 5 October 2016, the said division together with the Network Security, New Media Monitoring, Compliance and Advocacy Sector had succeeded in achieving the ISO 9001:2008 certification for Service Quality in Multimedia and Telecommunications. The Division had contributed to the certification so as to ensure the security of cyberspace and the regulation of network media content in Malaysia specifically, is more effectively executed, apart from supporting the function of the sector in general.

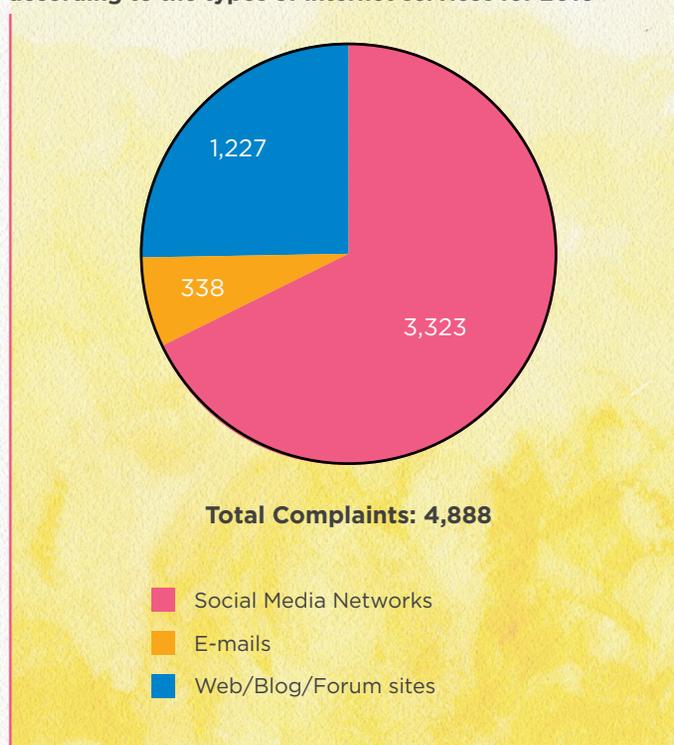
NETWORK MEDIA MANAGEMENT

At the hand of the Network Media Management Department, MCMC has accomplished the given target, which is in line with the Communications and Multimedia Action Plan (CMAP) 2016. Various earnest exertions and gumptions were made this year to bolster the department's capacity so as to affirm the regulatory aspect of network media content is dealt effectively.

Complaints, Investigations and Acts of Enforcement

The advancement in mainstream technology, specifically in the realm of social media has presented a host of challenges in terms of regulatory aspect of media network content. Throughout 2016, MCMC had gathered 4,888 complaints from the public. The statistical breakdown as specified by types of services and platforms is presented below:

Statistics on the total number of complaints according to the types of internet services for 2016

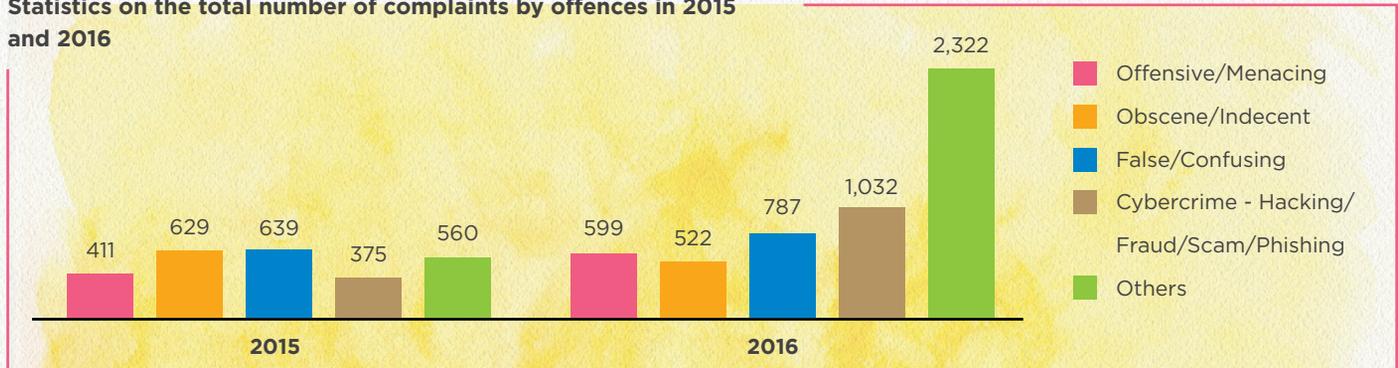


MONITORING AND ENFORCEMENT

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Following is the complaints statistic based on types of abuses and offences for 2015 and 2016.

Statistics on the total number of complaints by offences in 2015 and 2016

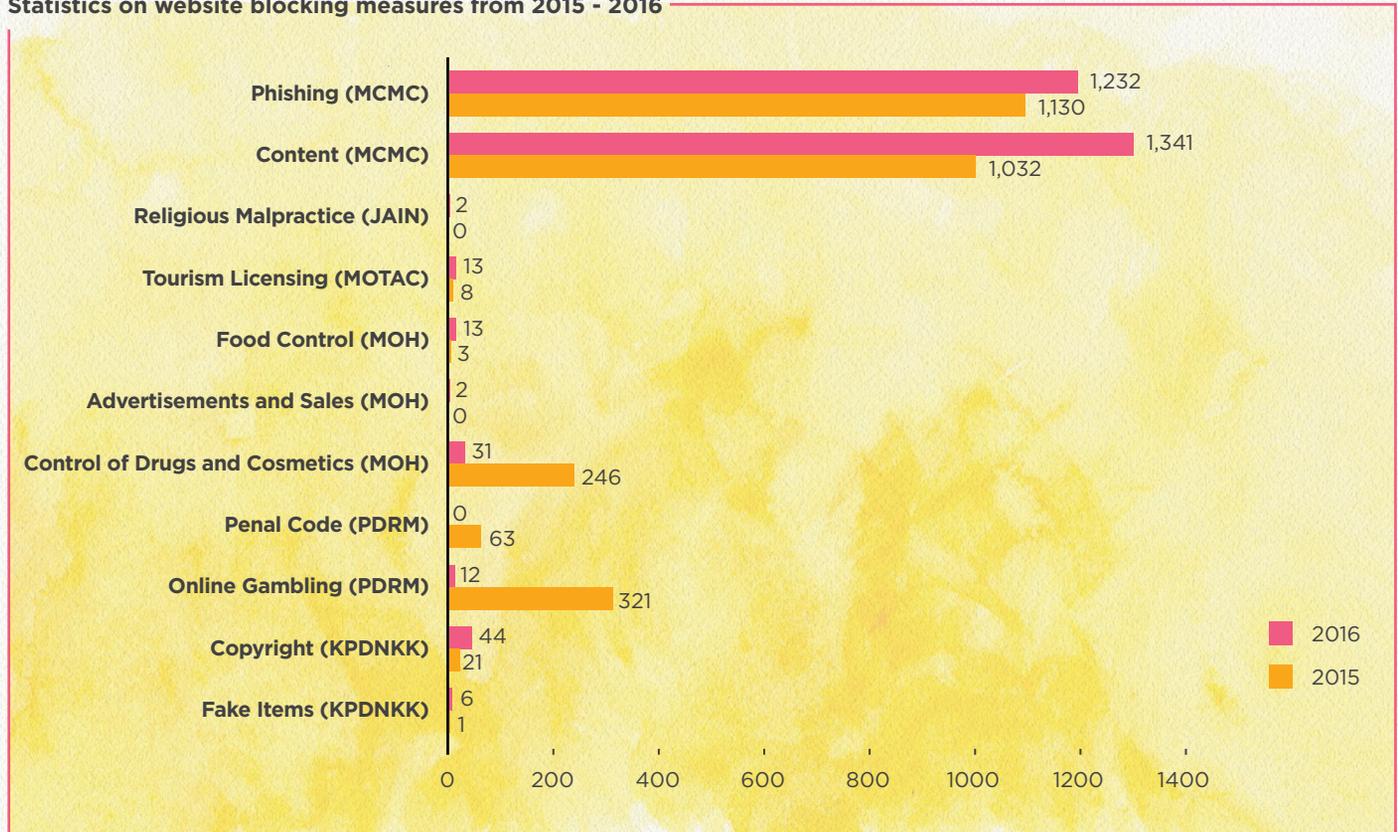


Current trend showed an increase in the total number of complaints received. The hike, among others, was originated from the increase in usage level of Internet facilities, and also due to the wider broadband penetration rate in Malaysia. However, despite all that, improvement measures that were rigorously applied at departmental level have paved the way to an achievement rate of 63% in the settlement of complaints within a period of not more than three working days.

New Media Content Regulatory Measures

The move to block websites is one of the last steps in terms of enforcement in order to prevent access to websites that are in contravention of any written law of Malaysia. Below are the statistics on blocking measures for websites from 2015 to 2016, in accordance with the related provision of the written law.

Statistics on website blocking measures from 2015 - 2016



MONITORING AND ENFORCEMENT

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NETWORK SAFETY MANAGEMENT

MCMC also plays a role of providing comprehensive management in regulating the Internet and network security for the communications and multimedia industry.

Such role entails the diligence in ensuring compliance, trust and confidence in the management of information security, infrastructure protection and Internet governance. In fact, it is expected to play its part in establishing relevant policies, as provided for under the Communications and Multimedia Act 1998.

For the reported year, MCMC's focus was directed towards Network Security Governance and Internet Governance.

Network Security Governance

Network Security Governance is all about protecting the communications and multimedia industry's infrastructure by implementing a host of programmes, such as the Information Security Management System (ISMS), Business Continuity Management System (BCMS), Disaster Recovery Plan (DRP) and Physical Protection Programme, in addition to the development of related standards and/or technical codes.

Developing Information Security Standard

Throughout 2016, MCMC was engaged in a working group (WG) for the development of information security standard, and thereafter, in presenting the proposal paper at the international stage by dint of its participation in the following activities:

- i. Information Security System Management (WG/G/5-1);
- ii. Technical Committee on Information Security (TC/G/5);
- iii. Technical Committee Meeting on IT Security Techniques (ISO/IEC JTC 1/SC 27/WG 1); and
- iv. ITU-T Working Group 17: Security

MCMC, with the cooperation of MTSFB had formed an Information/Network Security Working Group (INSWG) for the purpose of evaluating and examining current needs and issuing guidelines pertaining to information, network security and business continuity, which serves as a guide and reference for the communications and multimedia sector.

The guideline produced is entitled "Requirements for Information and Network Security", bearing the reference number MCMC MTSFB TC G2009:2016.

Capacity Development

Led by its proactive streak, MCMC took upon itself to organise a series of training workshops on capacity development as a means of supporting the implementation of Information Security Management System (ISMS) and Business Continuity Management System (BCMS) certifications. This endeavour had targeted the participation of officers from MCMC and the Critical National Information Infrastructure (CNII) sector. Among the certification workshops and series of training orchestrated by MCMC in 2016 were:

- i. Industrial Talk Series 1/2016: Introduction to ISMS, BCMS, Malaysia Trustmark and the Malaysian Common Criteria Evaluation & Certification (MyCC) Scheme;
- ii. ISO 17025:2005 Chief Assessor Training - General Requirements for Competence to Carry Out Tests and Laboratory Calibrations;
- iii. ISO 22301:2012 BCMS Chief Auditor Training;
- iv. ISO 27001:2013 ISMS Lead Implementer Training;
- v. ISO 27001:2013 ISMS Internal Auditor Training; and
- vi. ISO 22301:2012 BCMS Lead Implementer Training.

Survey on the Implementation of ISMS and BCMS Certifications

Continuing its active stance, MCMC administered two surveys regarding the ISMS and BCMS certification exercise in the CNII sector. The surveys were meant to identify and rate its implementation level, and therefore determine the next stage of training programmes to be carried out by MCMC.

Collaboration with CyberSecurity Malaysia (CSM)

In its effort to forge closer alliance, a Memorandum of Understanding was inked between MCMC and CyberSecurity Malaysia (CSM) in November 2015. The teamwork had accomplished several significant ventures in which the outcomes were tabled and deliberated upon at a working committee meeting. This committee convenes periodically and reports on the progress of each activity for each specific working group which had been agreed upon, namely:

- i. Cyber Security Technical Cooperation;
- ii. Competency Development and Advocacy Programme;
- iii. Security Assurance;
- iv. Cyber Security Product Certification;
- v. Implementation of Malaysia Trustmark Programme; and
- vi. International Cooperation.

Having full endorsement from MCMC, CSM organised a programme known as the CyberSecurity Malaysia - Award, Conference and Exhibition (CSM - ACE 2016) from 17 till 19 October 2016, which is meant to stimulate capacity building maneuvers, that are premised on a range of trainings, such as:

- i. First Responders Guide to Digital Forensic CSM-ACE Training;
- ii. The Importance of Security CSM-ACE Training;
- iii. Security Risk Management for the C-Suite CSM-ACE Training;
- iv. Security Situation Evaluation CSM-ACE Training; and
- v. Network Security and Incident Response CSM-ACE Training.

Apart from being the organiser, MCMC was also a panelist in one its discourse titled 'Security vs. Privacy', being represented by the Chief Officer of Network Security and Enforcement, Mr Zulkarnain Mohd Yasin. The rest of the panelist consist of representatives from the Communications and Multimedia Consumer Forum of Malaysia (CFM), Personal Data Protection Department (JPDP), as well as the Working Group on Identity Management and Privacy Technologies (WG/G/5-5).

The event also witnessed the Exchange of Memorandum of Understanding (MoU) between MCMC and CSM in the sphere of cyber security, during the CSM-ACE Gala Dinner 2016.

INTERNET GOVERNANCE

MCMC also takes on the responsibility of evaluating and assessing the Internet governance policy and management in Malaysia, which includes regulating the use of '.my' domain name. This is over and above the duty of ensuring the prudent use of the internet by laying out the policy and regulations regarding access to contents that are in violation of the law.

Electronic Addressing

Pursuant to Section 180 of the Communications and Multimedia Act 1998 (CMA 1998), MCMC has been vested with the control, planning, administration, management and assignment of the numbering and electronic addressing of network services and application services.

Resulting from that, and based on the authority provided under Section 181(1), MCMC has appointed MYNIC Berhad (MYNIC) as the administrator to manage and maintain the integrated electronic address database in Malaysia. MCMC, being the regulatory body, is accountable for supervising compliance issues and in outlining development strategies for the '.my' domain name.

In view of the fact that '.my' domain is Malaysia's country code Top Level Domain (ccTLD), and regarded as Malaysia's asset and identity, the management of '.my' domain name therefore, has to be regulated in order to affirm that its registration is not in violation of any Malaysian culture, norms and law. This includes the protection of sensitive names, intellectual properties, geographical names and regulated names.

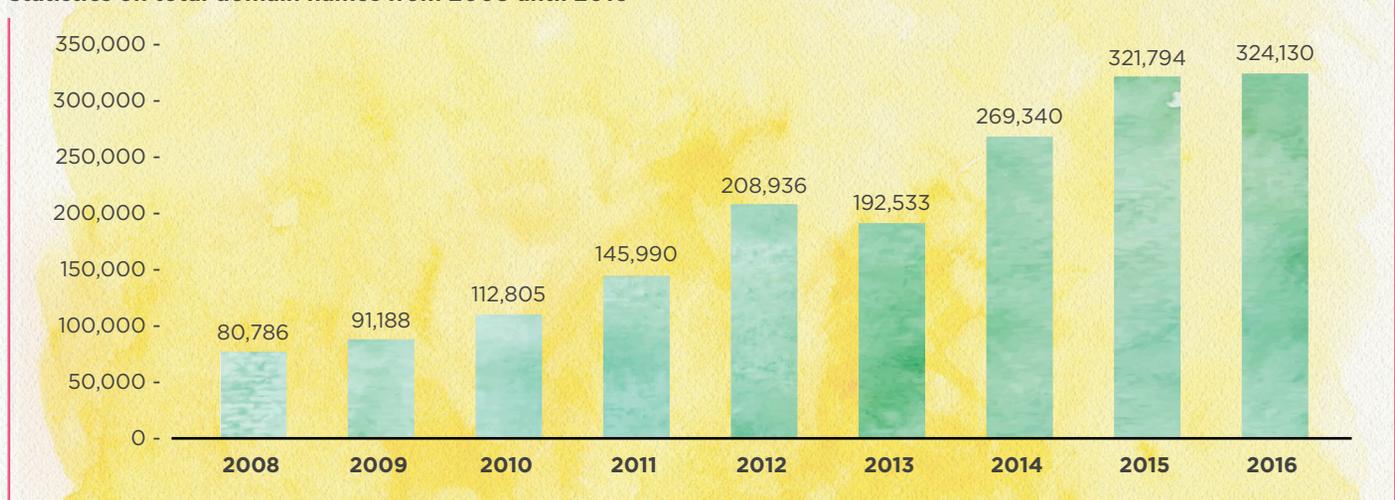
There are categorically eight domain names which ends with the '.my' domain name, specifically, .my [including International Domain Name (IDN)], .com.my, .net.my, .org.my, .gov.my, .edu.my .mil.my and .name.my.

As at December 2016, there were a total of 324,130 registered domain names, which indicate an increase of 2,336 registrations as compared to the overall figure of 321,794 which was recorded until December 2015. Following are the statistics on the total number of domain names from 2008 till December 2016.

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Statistics on total domain names from 2008 until 2016



As an organisation that is responsible for matters concerning electronic addressing, MCMC has stepped forward to represent Malaysia in the Governmental Advisory Committee (GAC) of Internet Corporation for Assigned Names and Numbers (ICANN). The selected delegates and advisors from MCMC are accountable for issues relating to the management of '.my' country code Top Level Domain (ccTLD). It is clearly an enormous task to bear as it may have implications on Malaysia and/or may affect the country's interest. Hence, it is crucial for MCMC to propose relevant policies or regulatory framework that are to be executed at the Ministerial level or by MCMC. For the time being, the said portfolio is placed under MCMC's jurisdiction by virtue of its Network Security Management Department (NSMD).

For the purpose of determining Malaysia's rights and interests are protected at the international level, MCMC unfailingly attend the GAC and ICANN conferences which is held annually. Outcome from the discussions during such conferences are deliberated upon at MCMC's management level.

Delegates were also sent by MCMC to attend the Policymakers Programme organised by the Internet Society at the 97th Internet Engineering Task Force (IETF) Conference which was held in November 2016. This programme proved to be of great benefit in boosting erudition on technical issues and Internet governance.

MCMC would continue participating in such programmes so as to be perpetually solicitous about the latest issues concerning internet governance.

NETWORK SURVEILLANCE

2016 was a year abound with enrichment pursuits in the course of solidifying MCMC's competence. An assortment of initiatives and improvements were undertaken in its attempt to ensure a more effective and efficient monitoring and surveillance, which in turn serves to tackle the country's cyber safety issues.

MCMC's Network Security Centre (NSC), established in 2008 and currently regulated by the Network Surveillance Department (NSD), has been accorded the responsibility of performing surveillance, monitoring, prevention and providing early warnings of oncoming cyber threats to any network system operators in Malaysia. There were a total of 5,788 incidents involving cyber security which were monitored and reported to NSC for the entire 2016, as compared to 5,299 cases in 2015. In reference to the said monitoring, the total number of reported incidents received, are divided into several categories as shown below:

Total number of Network Security incidents reported according to case categories in 2016

Case Categories	Total
Website Defacement	1,222
Banking Fraud/Phishing	687
Malware Code	1,416
Network Security Attempts	2,451
System Vulnerability	8
System Intrusion	3
Denial of Service	1

NC4

In the same year, the issue of security was further highlighted with the formation of the National Cyber Coordination and Command Centre (NC4), a project realised by the National Security Council (NSC) after almost two years in the pipeline. The project was mobilised by the need to establish a centre which monitors cyber attacks at the national level. Its existence has made it possible for an entire data to be channeled to the centre by all other monitoring centres from external agencies such as MCMC itself, CSM, Malaysian Administrative Modernisation and Management Planning Unit (MAMPU), etcetera. Currently, MCMC is utilising the MADUNET sensors to transfer its collected data, in which these sensors are also installed at several sites where Internet service providers are located throughout Malaysia.

MADUNET

Since 2010, NSC has been running a project known as Malaysian Network Attack Detection Using HoneyNet, or in short, MADUNET. This project deploys the Honeypot technology to collect and analyse cyber attack activities that are potentially threatening and able to jeopardize Malaysian network system. In terms of figures, MADUNET had succeeded in detecting approximately 55,792,030 attack activities and about 3,263,149 unique malicious code software (malware). This year, the MADUNET sensor has been added, bringing the total number of sensors to 30 units. The additional sensors will further augment monitoring capabilities in safeguarding Malaysia's network security.

MONITORING AND ENFORCEMENT

DIGITAL FORENSICS

Built upon the aspiration to be at the forefront of the nation's cyber security, MCMC has conceived and proceeded with endeavours that befit the said intent by bolstering its competence in digital forensic, and thereby, heightening the level of protection of the country's critical infrastructure throughout 2017. By means of its Digital Forensic Department, MCMC has positioned itself to render advisory service and digital forensic support in its quest to ceaselessly assist in cyber investigations and law enforcement pursuits for MCMC and other legal enforcement agencies. Digital Forensic is spurred by its paramount mission to be fully committed in carrying out digital forensic investigations professionally with an efficient quality of service.

Digital Forensic Undertakings Throughout 2016

By leveraging eight national and international platforms, the Department strives forward in the following activities:

- i. Organising four information and expertise sharing sessions with the Digital Forensic Working Group, comprising of professional forensic analysts from Malaysian Enforcement Agencies and Deputy Public Prosecutors, Attorney General's Chamber;
- ii. Conducted a 'Case Investigation Workshop on Social Media Abuse' in collaboration with MCMC's Enforcement and Investigation Department, from 4 till 6 April 2016. Participants in the workshop were officers from the Prosecution Department, Network Surveillance Department, Attorney General's Chamber and PDRM;
- iii. Collaborated with the Faculty of Computer and Mathematical Science, UiTM Shah Alam in holding a programme called 'iHack 2016' which ran from 23 till 24 April 2016;

- iv. Presenting working papers in relations to MCMC's Digital Forensic Experience at the Syariah Criminal Law in Cyberspace Seminar, held on 18 October 2016;
- v. Participated in MCMC's visit to the Cyber Investigation Response Centre, PDRM, on 11 August 2016;
- vi. An expert review source of reference concerning a PhD thesis regarding 'Digital Forensic Process Model of Remnant Evidences for Servers' Side Private Storage as Service Cloud Computing Environment' for the Faculty of Computer and Mathematical Science, UiTM Shah Alam;
- vii. Attended the annual meeting and symposium on 'ASEAN Forensic Network' in Bangkok from 16 till 19 August 2016; and
- viii. Visited the Digital Forensic Lab, Electronic Transactions Development Agency (ETDA) in Thailand on 17 August 2017.

In 2016, MCMC had sent two of its forensic analysts overseas to sit for a Competency Test (CT) conducted by the International Society of Forensic Computer Examiners (ISFCE), a highly recognised entity in the digital forensic discipline.

Digital Forensics Laboratory Quality Management and Accreditation

Persisting on the betterment of the Department, actions have been geared towards complying to the Quality Management System application with a view of gaining international accreditation for the digital forensics laboratory by adopting the MS ISO 17025:2005 Standard. In furtherance thereof, a myriad of practices concerning quality conformance have been executed, which are as follows:

- i. Holding laboratory management evaluation meetings;
- ii. Refining the Laboratory Quality Management System documentation which covers

- Quality Manual, Standard Operating Procedures (SOP), Guidelines, Procedure, Forms and external documents;
- iii. Risk assessment, asset checks and laboratory inventory;
- iv. Internal auditing by the Digital Forensics Department, CyberSecurity Malaysia;
- v. Laboratory maintenance exercises which include forensic asset equipment, lab infrastructure and logistics, the health and safety of the department's staff;
- vi. Laboratory accreditation process encompassing Competency Audit, Pre-assessment Audit and Compliance Audit were undertaken by certified auditors of the Department of Standards Malaysia.

To further complement the achievement in quality management and the accreditation of the digital forensics laboratory, the Department had received endorsement and was proposed to obtain the MS ISO 17025:2005 laboratory accreditation under the Malaysia Laboratory Accreditation Scheme (SAMM). The accreditation which will subsequently be certified and validated by the Department of Standards Malaysia, would signify that the digital forensics services provided by MCMC has fulfilled and observed the MS ISO 17025:2005 accreditation requirements and will therefore be reckoned as a laboratory that is compatible with other digital forensics laboratory in Malaysia and internationally.

Competency Development and Resource Optimisation

The complexity that dictates the ongoing in cybercrimes has warranted fellow officers to be primed with courses and trainings which are the crucially essential elements in order to determine all the officers are empowered with the latest knowledge in managing forensic investigations and in dealing with cybercrimes. By and

large, all of the Department's officers have attended technical training in accordance with the Training and Competency Plan 2016.

There were two official overseas assignments undertaken, which saw the attendance of an officer at an international digital forensics conference, ENFUSE 2016, held in Las Vegas, United States, while two other officers participated in the Forensic Science Symposium in Bangkok, Thailand. Back home, nine of the Department's officers had sat for various exams in the diversified stream of digital forensics, which include:

- i. EnCase Forensics Examiner (ENCE);
- ii. XRY Mobile Forensics Tool Certification (Basic, Intermediate and Advance Courses);
- iii. MS ISO/IEC 17025:2005 Lead Assessor in Compliance with APLAC; and
- iv. Forensic Analyst Global Information Assurance Certification (GIAC).

Along with that, the Department was granted allocation to tackle several projects in 2016, such as:

- i. Transportation asset purchase of Mobile Forensic On-the-Go;
- ii. Sophisticated equipment asset procurement for the Digital Forensics Laboratory;
- iii. Laboratory maintenance management;
- iv. Officers' competency and training enhancements;
- v. Creating a new system in managing lab information; and
- vi. Digital Forensics Laboratory quality management and accreditation.

The accomplishment of such projects had necessitated the procurement of assets and high-end instruments which by doing so, upgrades the department's capabilities in terms of facilities and simultaneously invigorating its service quality.

The Discovery of a New Method in Handphone Forensic Analysis

MCMC had discovered a new breakthrough in performing analysis on handphones. The breakthrough method was then sent to the CyberSecurity Malaysia (CSM)'s Digital Forensics Lab for verification and to run comparison study. Appertaining to the evaluation conducted by CSM, it was verified that such procedure was the latest method that had been identified. Both parties had agreed to prepare a research paper for the said method and further to that, it will be shared with the Digital Forensics Working Group as common information.

Joint Synergy with Institutions of Higher Learning

The department is ever willing to extend its cooperation to institutions of higher learning (IPTs) by way of providing an avenue for IPT students to undergo industrial training at the Digital Forensics Department, MCMC. The opportunity accorded to students will help shape their ingenuity and harness their creativity, besides offering a bright perspective to the department.

In 2016, there were four students who had undergone six months of industrial training at the department. They were from the following universities:

- i. Faculty of Science and Technology, Universiti Sains Islam Malaysia;
- ii. Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA;
- iii. Malaysian Institute of Information Technology, Universiti Kuala Lumpur; and
- iv. Faculty of Information Sciences and Engineering, Management and Science University.

Apropos of courses and trainings, the Department has participated in various training programmes related to the management of digital forensics and cyber security cases. These sort of participation is intended to expand and intensify knowledge, to share experience and expertise as the first responding officer at the location of incident and digital forensic investigation together with other enforcement agencies. For the entire 2016, the Department has involved in 21 programmes with a multitude of agencies, ministries, as well as public and private universities.

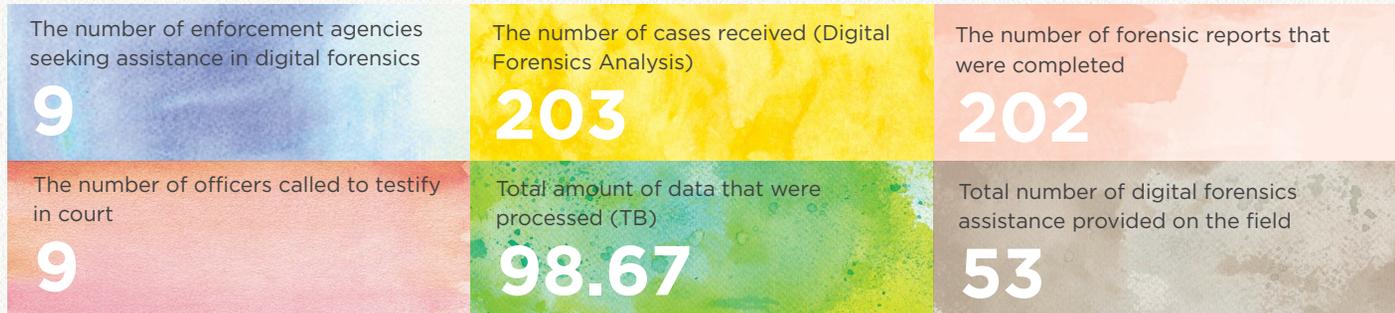
Digital Forensics Laboratory's Accomplishments

Escalating workload is among the foremost challenge faced by the Department. In 2016, the number of cases received had added up to 324, with a total count of exhibits reaching 912, which translates into an increase of 250 cases, as opposed to the received figures in 2015. The register on exhibits include digital equipment such as computers, tablets, smart phones, pen drives and many more. The blatant hike in the amount of cases and exhibits boils down to the ever changing communications landscape which saw acts of violations in varied forms such as the abuse of service networks and social media, sedition, threats on national security, dissemination of subversive ideologies and spreading deviant teachings as reported by MCMC's Enforcement and Investigations Department, Royal Malaysia Police (PDRM) and Malaysia Islamic Development Department (JAKIM).

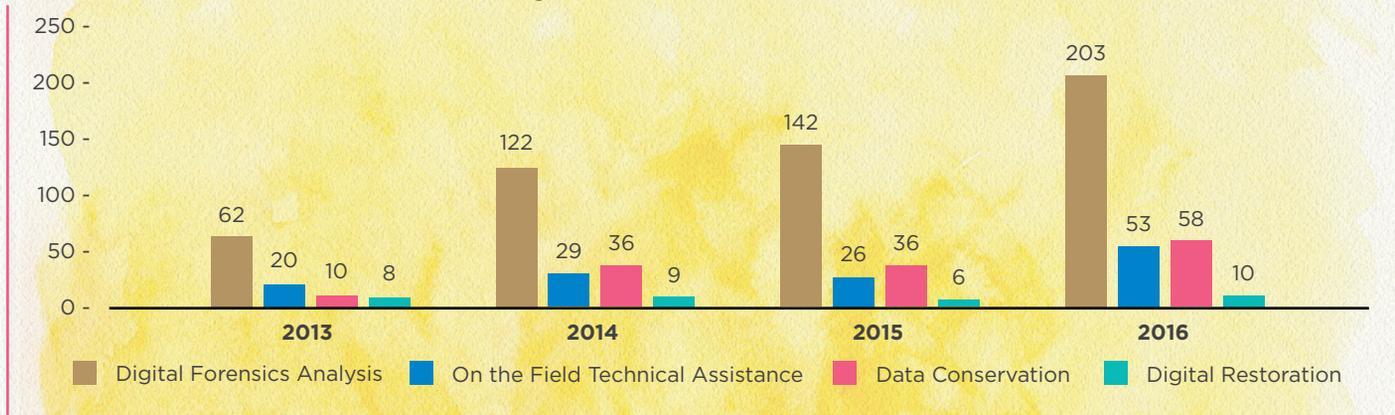
MONITORING AND ENFORCEMENT

DIGITAL FORENSICS

Statistics on Digital Forensics Laboratory's Areas of Involvement and Accomplishments

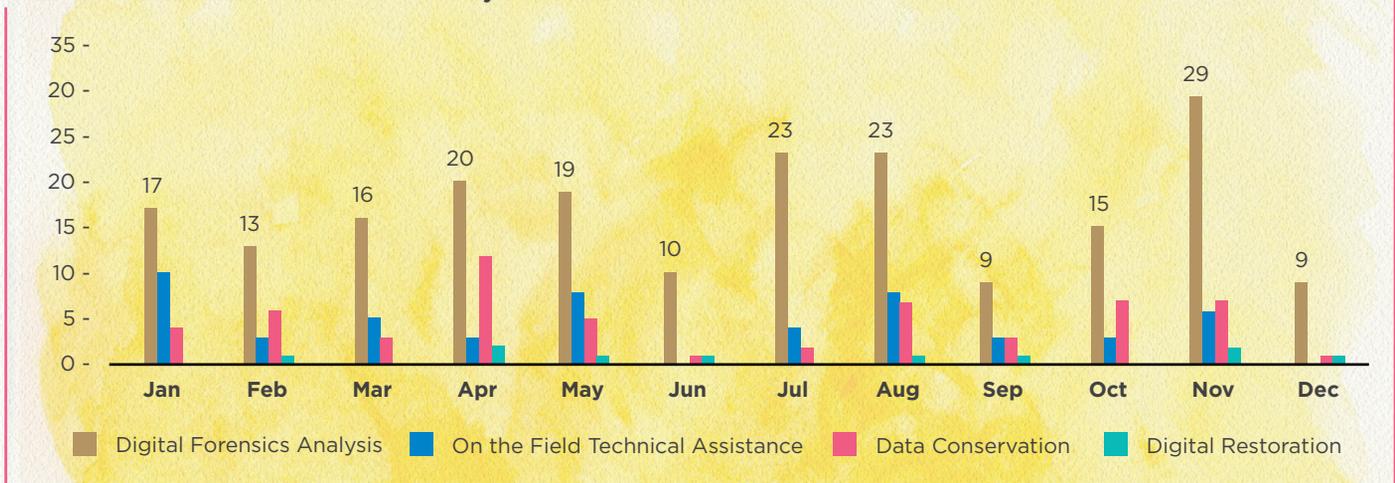


Statistics on Number of Cases Received for Digital Forensic Service from 2013 till 2016



The diagram above displays the number of cases the department had received within a period of four years. The chart illustrates the increase in the total number of cases from year to year, especially concerning digital forensics analysis.

Statistics on Number of Cases Received by Month for the Year 2016



Despite the soaring amount of tasks, 2016 has been marked as an encouraging year for MCMC as it managed to rise to the occasion and achieve its goal within the ambit of Digital Forensics, as enjoined by the Communications and Multimedia Action Plan (CMAP). Its achievements in aiding investigations into cybercrimes and matters pertaining to the communications and multimedia sector sets the pivotal tone for MCMC and other law enforcement agencies in a manner that impels a professional and effective quality of service in digital forensic investigations. By fully understanding the terms and nuances of this vocation, MCMC will continue its quest for excellence and mastery in digital forensic services, albeit faced with ever-increasing challenge and changing paradigms of the communications landscape in this digital era.

S e c t i o n

04



: OTHER EFFORTS IN SUPPORT OF OUR OBJECTIVES

ADVOCACY AND OUTREACH

EMPOWERING THE PEOPLE TOWARDS A DIGITAL AND MEDIA LITERATE SOCIETY

Digital Citizenship intertwines the inculcation of positive culture in the use of Internet as embodied in the guiding principles of Rukun Negara, whilst infusing the ability to critically evaluate, explore and create an assortment of media contents and services.

With IT literacy and cognizance of the latest technology development on the rise among fellow Malaysians, they are granted ample communications and multimedia facilities which unlocks massive benefits and advantageous as information are now readily available at their fingertips. But alas, this progress is in itself filled with paradoxes as it exposes them to many online risks and dangers.

On the back of such predicament, MCMC has established the Advocacy and Outreach Division (AOD) for the very purpose of enlightening and exalting the public's awareness when using communications and multimedia applications, services and networks.

AOD is resolute in its vision of moulding digital literate citizens that are able to utilise the internet in a wise manner, fully comprehending the impact of the media, media content, media industry, understanding the world and actual reality, as well as oneself; aside from possessing the ability to sift and combine significant information.

Main Advocacy Message

AOD propelled ahead in its crusade to heighten the awareness of the masses by capitalising on the initiative undertaken by MCMC, especially concerning internet safety, with a programme called 'Klik Dengan Bijak'® (KDB) or Click Wisely.

Three key messages were highlighted in 2016, with the aim of educating the community in leading a positive digital life, which elucidate the need to stay safe and secured online, or acts that concern:

- i. Digital Participation
 - Amplifying awareness on the use of the technology and its contributions to society
- ii. Positive Usage
 - Elevating the level of consciousness on the rights and responsibilities of Internet users and nurturing a culture of accountability and positive usage, premised on the national ideology or the principles of Rukun Negara..

- iii. Digital Leadership
 - Increasing the public's engagement and participation in order to encourage contributions to the digital lifestyle

A host of avenues were utilised in executing the awareness campaign which include media campaigns, articles and editorials, field activities, direct collaboration with stakeholders, public relations and also through the Malaysian ICT Volunteer (MIV) Programme.

CONTINUOUS ADVOCACY TO PROPAGATE RESPONSIBLE DIGITAL CITIZENS

Not limited by KDB alone, AOD ventured into different terrains in 2016 by virtue of MCMC's several other endeavours. AOD's active espousal had meant fully leveraging the MIV, Mobile e-Waste and Check Your Label programmes, along with the utilisation of the digital lifestyle platform.

With that, 2016 proved to be a prolific year, having accomplished 98 KDB programmes, reaching over 904,315 participants nationwide. The deliverance of key advocacy message to the targeted audience was realised with the execution of KDB field programmes and activities, made possible through the assistance of six Regional Offices, seven State Offices and 704 Malaysia Internet Centres (PIIM).

Approaching the Targeted Group Via Strategic Involvement

AOD had exerted a holistic approach by forming strategic cooperation for the purpose of empowering consumer advocacy, through:

- i. strategic partners, namely ministries, government agencies, non- governmental organisations (NGO) and institutions of higher learning;
- ii. digital partners, such as Grafik Malaya's designer, digital influencers through social seeders and digital media channel partners (JAKIM's Facebook, KKM's Facebook, etcetera).

Leading Strategic Partners

In optimising outreach efforts and in order to gain maximum result, AOD has collaborated with a number of organisations and government agencies that are able to attract targeted group more effectively and on a larger scale.

1



The Scouts Association of Malaysia (PPM)



Held at Kem Pengakap Tengku Muhammad Ismail, Kuala Nerus, Terengganu, from 15 till 20 September 2016, MCMC's involvement in the Fifth ASEAN Scouts Jamboree was courtesy of its strategic relationship with the Scouts Association of Malaysia (PPM). Attesting to a strong fellowship and overwhelming support from scouts all over Malaysia and ASEAN countries, the jamboree had attracted the attendance of 10,134 registered scouts between the ages of 12 to 17.

Going by the mantra 'Scouts' Digital Leadership', MCMC took full advantage of the opportunity accorded by the ASEAN Scouts Jamboree to manifest its goal of developing human capital that is able to bring forth astute leaders and digital citizens, besides shaping an unyielding mindset and leadership among fellow scouts to be attuned to the advancement in communications and multimedia technologies.

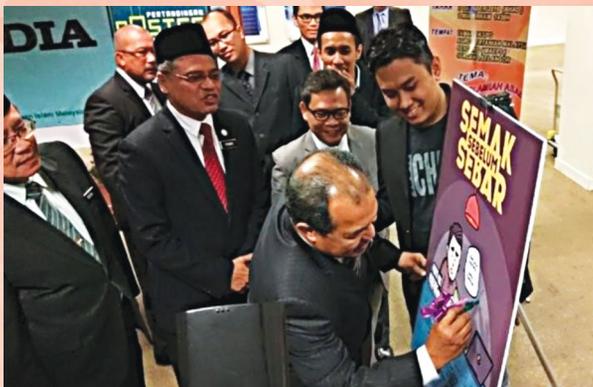
The narrative of the event was centred on KDB Talks, KDB Cyber Challenges, KDB Innovations, KDB Creativity and 'KDB Syok' activities.

It is heartening to note that the propagation of MCMC's advocacy message had reached international audience with the presence of the targeted group which include scouts from abroad and also through its overseas administrators and leaders which were either part of the participants, observers or secretariat.

2



Department of Islamic Development Malaysia (JAKIM)



MCMC and JAKIM has collaborated in organising KDB Digital Da'wah Creative Poster Contest which ran from 1 September 2016 till 30 November 2016.

This competition was meant to offer diversity in channeling da'wah, whilst enticing active involvement from the community in grasping the key advocacy message, particularly the one which concerns positive use of the Internet from the perspective of Islam.

The attempt proved fruitful, as it garnered full support from the biggest fraternity of graphic designers in Malaysia called Grafik Malaya (GM), from PIIM community and schools all over Malaysia, reaching a crowd of 500,000 from FBs and contest portal.

ADVOCACY AND OUTREACH

3



MCMC's strategic approach in building the bridge of cooperation was also extended to KidZania. The teamwork had effectively debuted the Community Engagement Programme on 24 April 2016, followed by the Children and Technology Programme, which was carried out from 28 May till 12 June 2016.

Through role playing, a total of 240 children together with their guardians from 12 Internet Centres all over Selangor were exposed to a multitude of careers during their participation in the Community Engagement Programme.

Continuing its momentum, the Children and Technology Programme was executed by adopting an interactive and fun mode of learning for children so as to stimulate students' interest in the field of science, technology and mathematics, in addition to elevating their skills in problem solving.

DEVELOPING THE CAPABILITIES OF LOCAL COMMUNITIES THROUGH VOLUNTEERISM INITIATIVES

In addressing the digital divide within a society that is polarised and disintegrated by various backgrounds and generations of different age groups, the Malaysian ICT Volunteer (MIV) Programme was duly crystallised. MIV is viewed as a medium of change in its endeavour to empower Malaysians in becoming digital citizens, which is imperative in the move towards establishing a Smart Digital Nation.

Anchored by its maxim, 'Educate, Enjoy, Serve, Respect', the MIV Programme is relied upon to reinforce the digital literacy agenda throughout the country.

Over and above, this programme urges citizens who are digital and media literate to step forward and involve themselves in an effective, ethical and responsible manner, so much so that it would impel demands for communications and multimedia services.

The presence of MIV as an ICT volunteer programme aspires to assist communities in identified localities to embrace ICT by directing all effort and attention of educating the respective communities on the use of ICT equipment, as well as in ICT development.

Plans in 2016 was all about steering the MIV mission towards four focused group with the hopes of engendering a digital society imbued with credibility and the ability to develop

and devise applications and ICT services. Moreover, they are envisioned to possess the competence of crafting appropriate contents for the society and user groups, insomuch that every aspect of life is within their control. The four focus group encompasses:

- i. MIV with Communities;
- ii. MIV with Schools;
- iii. MIV with ICT International Volunteer 2016; and
- iv. MIV with Institutions of Higher Learning (IHLs)

Programmes/Activities 2016	No. of Volunteers
Phase 1 of MIV with the Community	40
MIV with International ICT Volunteers 2016	5
Phase 2 of MIV with the Community	31
Session 1/2016 MIV with Schools	45
Session 2/2016 MIV with Schools	217
MIV with IHLs in conjunction with Phase 3 of MIV with the Community	14
Multimedia Training Programme @ MTC, Kota Belud	24
Total	376

Supporting the Development of a Digital Smart Nation through MIV Programmes

1

Launch of the Malaysia ICT Volunteer Programme, Lundu



MIV was launched on 27 February 2016 by YB Datu Len Talif Salleh, Assistant Minister of Workforce Development and Training and Assistant Minister of Environment, Sarawak, in conjunction with the Lundu Smart Community Programme, in Sarawak.

2

Phase 1 of MIV With the Community



MIV With the Community rolled out its pilot project at nine selected 1Malaysia Internet Centres (PIIM) with the aim of boosting businesses of the local populace for it to be better known online, through the use of social media.

Phase 1 of MIV With the Community Workshop was held on 16 and 17 April 2016 at RH Hotel, Sibul, Sarawak, for selected MIV participants and managers of 1Malaysia Internet Centres in Sarawak.

3

Phase 2 of MIV With the Community



Phase 2 of MIV With the Community Workshop was held on 3 and 4 September 2016 for selected MIV participants. The two-day course was conducted at Riverside Hotel, Kuching, Sarawak, with 31 attendees.

4

MIV With IHLs in conjunction with Phase 3 of the MIV With Community



This three-day event took place at MCMC's Regional Office in Kuching, Sarawak from 11 till 13 November 2016.

ADVOCACY AND OUTREACH

5

MIV With Schools



MIV With Schools had ran two workshops on 7 and 9 September 2016 which saw the attendance of teachers from secondary and primary schools around Selangor, the Federal Territory of Kuala Lumpur and Putrajaya.

6

MIV With International ICT Volunteers (IIV)



In 2016 alone, MCMC had the pleasure of receiving three groups of IIV participants from various universities in South Korea. A total of 11 volunteers were placed at three different 1Malaysia Internet Centres (PIIM), being:

- i. PIIM Kampung Rampayan Laut, Kota Belud, Sabah;
- ii. PIIM Kampung Pinang, Samarahan, Sarawak; and
- iii. PIIM Pulau Pangkor, Perak.



Through this programme, five local volunteers comprising of students from Public Institutions of Higher Learning (IPTA) were given the opportunity to join the IIVs. They were assigned to the PIIM Kampung Pinang in Kota Samarahan, Sarawak, to learn the ropes and understand what it takes to be an ICT volunteer.

A rough outline of the itineraries throughout the IIV Programme include the opening ceremony, the Annyeong Haseyo Day, which is the day with the local community and the closing ceremony.

All three activities were held at a location near the selected PIIM.

TECHNOLOGY AND SOCIETY

The rapidly evolving technology that infiltrate every aspect of our existence and in multifarious spheres has enabled the society from all walks of life to access information with great ease and convenience. It echoes the luxury of a vast and limitless search for information which goes beyond borders and boundaries to bridge the digital divide between countries. Technology is a means to and end. It opens up endless passage of opportunities, be it in the form of career, health, business, communications, education, and a whole lot more for the masses, to ultimately attain the essence of an informed society.

Green ICT Development and Promotional Grant

Inspired by and aligned to the Eleventh Malaysia Plan (11MP), MCMC has embarked on several green initiatives, namely the establishment of the Green ICT Industrial Development Promotional Grant which is undertaken in collaboration with Malaysian Technical Standards Forum Berhad (MTSFB). The grant's explicit objective is to spur eco-friendly ICT solution and innovation among the industry's movers and shakers.

The projects administered under the said grant are as listed below:

Detailed list of projects under the Green ICT Industrial Development Promotional Grant

No.	Companies	Green Projects	Comments
1.	Green Data Centre LLP	Eco2	A local solution to the data centre cooling system based on fluid submersion technology which utilises palm oil as a coolant. It has proven to be functioning well in tropical climate.
2.	Sustainable Energy Development Authority Malaysia (SEDA)	Study on Low Carbon ICT in telecommunication facilities. i. Basic Study on Telecommunications Equipment ii. Basic Study on a Typical Data Centre	A baseline assessment and setting the measurement of energy consumption, as well as reducing carbon emission at communication facilities.
3.	Solar NRJ Sdn Bhd	Hybrid Hydrogen Fuel Cell and Solar PV Off-Grid System	Employing solar energy and hydrogen fuel to supply fully required energy at BTS sites situated in rural areas which do not have electrical power supply.
4.	NFE Technology Sdn Bhd	<i>Sahabat Hijau</i>	Application development which adopts the crowd sourcing mechanism to obtain information pertaining to eco-friendly issues such as open burning, pipe leakage, etc, which is then adduced to related agencies for further action.
5.	TechCapital Solutions Sdn Bhd	RoadMe: Vehicle Diagnostic and Monitoring System (VDMS)	An integrated system connected to the vehicle's Electric Control Unit (ECU) and developed by applying the Vehicle Diagnostic Monitoring System (VDMS) technology. Among the objectives of the system are to reduce carbon emission, monitoring driven vehicle and fuel usage efficiency.

TECHNOLOGY AND SOCIETY

A summary of achievements attained throughout 2016:

- i. May 2016 marked a significant episode for Eco2 when it took home an award under the e-Environment category, during the World Summit on the Information Society (WSIS) which was held in Geneva. Prior to that, Eco2 had also triumphed on the international stage by winning the Asia Pacific ICT Alliance (APICTA) Award 2015 under the Sustainability and Environment Technology category.
- ii. A mobile application known as Sahabat Hijau was adopted by the Kajang Municipal Council (MPKj) and fine-tuned accordingly in suiting with MPKj's scope of jurisdiction and usage. The said application was then named iKajang and made available by downloading from Google Play.
- iii. An event to officiate the Proof-of-Concept (PoC) in Hybrid Hydrogen Fuel Cell and Solar PV Off-Grid System, meant for Telco projects, was held at Digi's transmitter station in Kuala Rompin on 7 April 2016. The ceremony was launched by Dato' Mohd Ali Hanafiah Mohd Yunus, the Chief Officer of Communications and Digital Ecosystem, MCMC.

Organising the ITU-T SG5 Meeting: Environment and Climate Change, in Kuala Lumpur, 20-27 April 2016

Merging efforts with the Ministry of Communications and Multimedia Malaysia (KKMM), MCMC stood as host for the International Telecommunication Union (ITU) Telecommunication Standardisation Sector (ITU-T) Study Group 5 (SG5) Meeting that focused on the subject of 'Environment and Climate Change'. The event took place at Renaissance Hotel, Kuala Lumpur from 20 till 27 April 2016. ITU-T SG5 is a Working Group accountable for identifying methods in assessing the impact of ICT on climate change and establishing guidelines concerning environmental friendly use of ICT. SG5 was also entrusted with the task of studying the means and approaches in mitigating the negative effects of ICT and e-waste on the environment.

The said ITU-T SG5 meeting had witnessed the attendance of 152 participants from 35 countries, whereby for a duration of eight days, a total of 245 documents were revised and deliberated upon, although only 18 documents were accepted as ITU recommendations. Malaysia had presented a contribution paper on the topic of 'Mobile e-Waste: Old Phone, New Life' which elucidates the venture undertaken by MCMC in partnership with other industry players in managing e-waste. The paper was accepted and established as a baseline document on 'Additions to the Accumulation of Sustainable Model in the Management of e-Waste by the

Private Sector', through which it serves to highlight the positive outcome and best practices in managing e-waste disposal.

Benefiting the scenario presented during such meeting, ITU, in collaboration with MCMC had organised the 11th ITU Symposium on ICT, Environment and Climate Change on 26 April 2016. Bearing the theme 'Celebrate the Earth, Towards a Sustainable Future', the symposium received favorable response with a turnout of 300 participants, comprising of researchers and leading specialists from academic institutions and industry, communications service provider and representatives from government and regulatory bodies.

e-WASTE MANAGEMENT

'Mobile e-Waste: Old Phone, New Life'

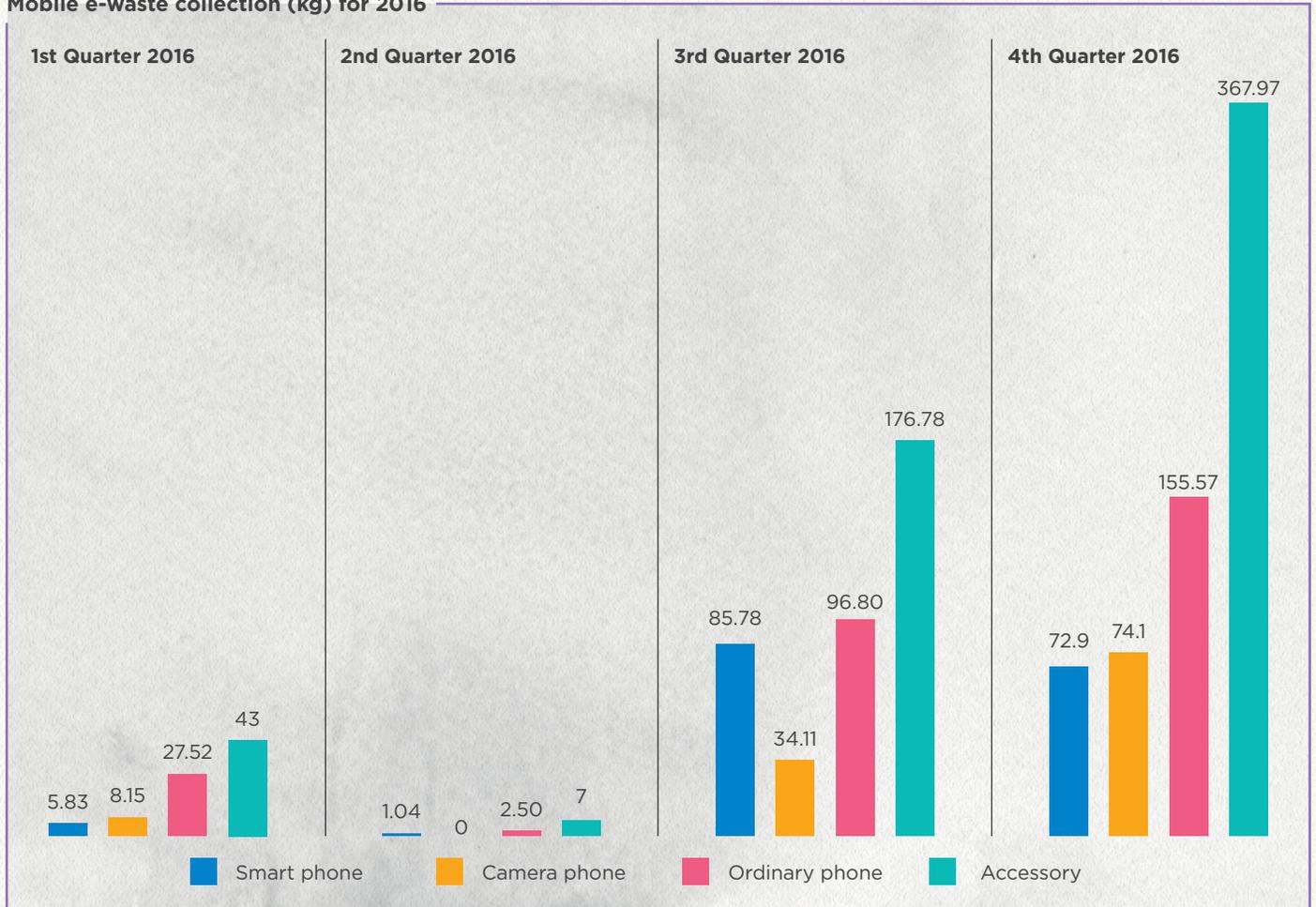
Launched in August 2015, the 'Mobile e-Waste: Old Phone, New Life' programme continues its trajectory and proves its viability as the focal issue on recycling end-of-life or no longer used mobile devices, proceeded to gain ground.

The strive towards developing concrete cognizance on the significance of adhering to the Mobile e-Waste concept had witnessed the running of various campaigns and activities which involved partners of the industry, 1Malaysia Internet Centre (PIIM) and MCMC, including its Regional Office, as well as the Advocacy and Outreach Division.

Along with that, a site visit to a mobile e-waste recycling centre, Shan Poornam Metals Sdn Bhd in Perai, Penang, was arranged with fellow media practitioners on 22 August 2016. This was followed by visits to telco stores such as Celcom, DIGI, Maxis, and U Mobile, that are scattered all over Bayan Lepas, Penang and Ipoh, Perak, which took place from 22 till 23 August 2016. The visits were meant to be an eye-opener for the public to better understand the recycling process that are being carried out through the Mobile e-Waste framework. As a result, the programme received coverage in a news segment and was publicised through 23 articles in the form of newsprint and online reporting.

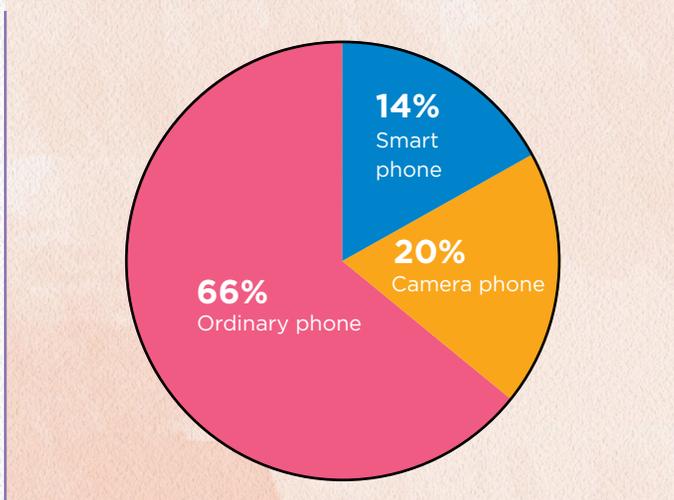
The media coverage and other supportive ventures executed by numerous parties had managed to invoke a sense of awareness among the community on the importance of eliminating e-waste in a safe and environmentally friendly manner, as attested by the total number of devices collected under the Mobile e-Waste programme.

Mobile e-waste collection (kg) for 2016



Of this total, the bulk of recycled phones are ordinary phones without camera and smart features, as indicated in the diagram above.

Fractions of the mobile e-waste collection for 2016



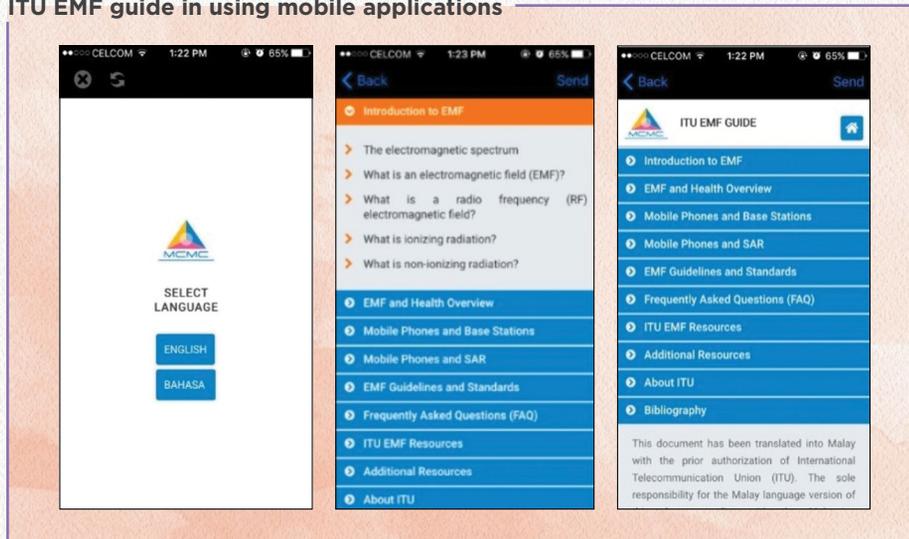
ELECTROMAGNETIC FIELDS (EMF) EMISSION FROM RADIO COMMUNICATIONS INFRASTRUCTURE

A research conducted on EMF in collaboration with Universiti Malaysia Perlis (UniMAP) and Universiti Malaysia Kelantan (UMK) were directed towards determining whether there are any effects on children who have had short term exposure to Long Term Evolution (LTE) emission and the biological effects of LTE exposure on the public.

MCMC is committed in supporting research endeavours relating to EMF radio frequency effects on the general public, so much so that the latest updates are made available through a website that has been given a new URL, <http://rfemf.mcmc.gov.my/>. Moreover, a mobile application called the 'ITU EMF Guide' has been developed to convey valid information regarding EMF emission to the masses. Downloading is made possible either by using the Android or IOS application as displayed in the following diagram.

TECHNOLOGY AND SOCIETY

ITU EMF guide in using mobile applications



leveraged and accessed by students and the public alike, for the purpose of inventing, innovating and harnessing their creativity, and therefore embracing the digital lifestyle.

A variety of activities were implemented throughout 2016 to fuel the said initiative. Over Pertubuhan myMaker, several programmes, such as workshops and competitions were held to acquaint the public theoretically and practically in the sphere of STEAM.

Among the programmes executed were:

I. **Southeast Asia (SEA) Makerthon 2016**

Held from 8 to 9 October 2016 at Old MCMC Headquarters Building, the SEA Makerthon 2016 took its course, underpinned by the theme 'Consumer Electronics in Circular Economy: Managing Waste in Today's World'. In joint action with Pertubuhan myMaker, a crowd of 20 groups took part in the competition which brought forth the contestants' diverse creativity and innovative ideas.

The end of the competition saw the eCycle Group was announced as the winner and Malaysia's representative to the InnoVAASEAN 2016, scheduled to take place in Singapore in October 2016. The team had produced recycling box for items and rewarding users who recycle their discarded goods through their smart phone application.

II. **Penang Mini Maker Faire 2016**

Collaborating once again with Pertubuhan myMaker, and Intel Malaysia coming on board as well, MCMC took the lead in organising the Penang Mini Maker Faire which was held from 15 till 16 October 2016 at the Penang Science Cluster, Georgetown, Penang.

DIGITAL LIFESTYLE AND THE SOCIETY

Through its Digital Lifestyle and Society Department, MCMC had exerted three essential initiatives with the intent to gear the society and industry towards the stage of preparedness in becoming a Smart Digital Nation by 2020. The three crucial initiatives are known as Digital Lifestyle Malaysia (DLM), myMaker and Society Initiatives.

The Digital Lifestyle Malaysia (DLM) Initiative

The implementation of the Digital Lifestyle Malaysia (DLM) drive embodies five fundamental ecosystems in the ICT and industry technologies to form the axis of the country's development. The five ecosystems are Transportation, Agriculture, Healthcare, Track and Trace, as well as Retail and Payment.

The main rationale for the DLM initiative is to ease the streamlining process with the industry in terms of competency, productivity and boosting the country's economy by means of utilising ICT facilities and Internet of Things (IoT) in order to realise its destiny by the year 2020, which is to stand tall as a Smart Digital Nation.

myMAKER Initiative

myMaker is MCMC's drive in stirring and raising society's awareness towards the realm of Science, Technology, Engineering, Arts and Mathematics (STEAM) and the Internet of Things (IoT) which in turn, serves as a catalyst in actualising the digital lifestyle.

Hence, it parallels a receptacle that enables digitisation in the lifestyle of fellow Malaysians by embedding the elements of IoT in each and every initiative it undertakes.

This effort is further accelerated by the presence of an IoT myMaker Laboratory at Old MCMC Headquarters Building (previously a Knowledge Resource Centre). The laboratory provides an avenue and is well fitted with facilities that can be

On the basis of exposing and educating the community about the Maker, the programme managed to attract a throng of 3,000 visitors. Meanwhile, a total of 40 exhibitors consisting of members from Pertubuhan myMaker, together with others from Intel Corporation, as well as Maker members from neighbouring countries, namely Thailand and Indonesia were at hand to demonstrate and display their respective technologies and innovations to the visitors, comprising of children, students and parents.

Apart from the exhibition, the fair was leveraged to the fullest by conducting workshops on programming, soldering, and robotics for a myriad of visitors.

III. **Kuala Lumpur Engineering and Science Fair (KLESF) 2016**

KLESF 2016 which took place at MIECC, The Mines, Seri Kembangan, Selangor from 4 till 6 November 2016, marked MCMC's second involvement in the said exhibition which attracted 37 exhibitors made up of members from Pertubuhan myMaker, along with 200 school children who took it in their stride to showcase their respective creativity.

MCMC's and myMaker's ceaseless affiliation in such programme demonstrate their determination in influencing and impacting students' interest in the realms of STEAM which appear to be declining. Such exposition is hoped to ignite their curiosity and inspire their interest in the said field of study.

IV. **myMaker Robotic Challenge 2016**

Propelling ahead, MCMC continued its mission with a robotic competition that went on for three days, beginning from 11 till 13 November 2016. This time around, besides Pertubuhan myMaker, it had also forged cooperation with the Malaysian Robotics Engineering Association (MREA) and was supported by the Ministry of Education (KPM).

The event which transpired at Old MCMC Headquarters Building, managed to attract more than 800 contestants nationwide. They came in batches to form 206 groups, accounting for 60 educational institutions nationwide, be it schools, colleges or universities.

This competition offers a good ground for breeding a generation that is creative, innovative and competitive, driven by their desire to outdo one another over nine categories, which are the IoT Robotic Challenge, Combat Robot, Tower Conquer Robot, Humanoid Robot, and so on.

Society Initiatives

This initiative is a manifestation of a productive synergy between MCMC and the society in embarking on a digital lifestyle which is being realised by rendering the necessary infrastructure and ICT services, in addition to the purveyance of ICT and digital technology workshops for the intended users. And it is by the same token that MCMC had formed coalitions with the Department of Islamic Development Malaysia (JAKIM), numerous associations related to persons with disabilities (PWD), religious bodies and many others. The inclusion and involvement of all sectors of society such as women, students from rural areas and people with disabilities are duly emphasised to stir awareness and stimulate learning and understanding of the digital lifestyle, ICT services and in exploiting the applications of Internet of Things (IoT).

Collaboration with the National Council for the Blind Malaysia (NCBM)

Partnership between MCMC and NCBM had seen to the organisation of a forum which was held on 22 March 2016. The discourse had brought to light the aspects of Malaysian digital lifestyle, ICT and digital applications for persons with disabilities. Aside from that, the partnership had proved fruitful in developing a mobile application dedicated for the visually impaired, known as the Money Reader, whereby its function is to read and inform the user on the denomination of the Malaysian Ringgit. The development of the Money Reader mobile application has since been fully completed and uploaded to Google Play for the benefit of the visually impaired.

Collaboration with the Department of Islamic Development Malaysia (JAKIM)

Weaving the ties of strategic alliance with JAKIM had enabled the creation of two mobile applications that afford amenity and advantage to Muslims, and to Malaysians in general. One of the application is the Smart Quran, in which the Quran is presented in a digital version. The contents of this digital version has been checked and verified by JAKIM, Ministry of Home Affairs (KDN), as well as the State Islamic Religious Department (JAIN), and hence, it can be used without any shred of doubt. The other application is called Smart Halal which is beneficial in checking and verifying the halal status of products, food premises and slaughterhouses in Malaysia. The development of these two applications are expected to be completed by the third quarter of 2017.

TECHNOLOGY AND SOCIETY

Collaboration with the Buddhist Maha Vihara Society

MCMC's affiliation with the Buddhist Maha Vihara Society had enabled repair works to be carried out on the society's ICT infrastructure, located at its headquarters in Brickfields. Moreover, a workshop regarding drone and robotic technologies was also conducted on 25 June 2016. With the society's members in attendance, they were exposed to digital, engineering and physics technologies.

STANDARDS DEVELOPMENT

Part of MCMC's responsibilities also concerns the development of standards or technical codes which touches the aspect of interoperability and security of network facility, which are proceeded upon through the Technical Standards Forum. Additionally, MCMC also handles certification programme for competency and communications equipment, as prescribed under the Communications and Multimedia (Technical Standards) Regulations 2000. To this end, a Market Surveillance Programme and several new initiatives were introduced and conducted to enhance the level of compliance in communications equipment according to the standards or technical codes that are being enforced.

World Telecommunication Standardization Assembly (WTSA) 2016

The year 2016 witnessed MCMC's participation in the World Telecommunication Standardization Assembly 2016 (WTSA 2016), organised by the International Telecommunication Union (ITU). This gathering takes place every four years for the purpose of determining the direction in standard development, particularly at the international level for 2016-2020. MCMC's engagement had kicked off with the Asia Pacific preparatory conference, which falls under the auspices of the Asia Pacific Telecommunity (APT) for the purpose of preparing the APT Common Proposal (ACP), that were to be presented at the WTSA 2016, scheduled to take place in Tunisia from 25 October till 3 November 2016.

All 21 APT proposals presented at the WTSA 2016 were approved by member countries, including four proposals headed by Malaysia, namely:

- i. Amendments to Resolution 45 - Effective coordination of standardization work across study groups in the ITU Telecommunication Standardization Sector and the role of the Telecommunication Standardization Advisory Group;
- ii. Amendments to Resolution 64 - IP address allocation and facilitating the transition to and deployment of IPv6;

- iii. Amendments to Resolution 73 - Information and communication technologies, environment and climate change; and
- iv. New resolution on standardisation work in the ITU Telecommunication Standardization Sector for cloud-based event data technology.

World Standards Day 2016

For the very first time, to commemorate the World Standards Day 2016, MCMC and the Department of Standards Malaysia had joined forces to coordinate the World Standards Day Fun Run 2016. Held on 16 October 2016, the 5 km run was officiated by Datuk Seri Panglima Madius Tangau, Minister of Science, Technology and Innovation (MOSTI) together with the Deputy Minister of Communications and Multimedia Malaysia, Dato' Jailani Johari. In line with the theme 'Standards Build Trust', the World Standards Day 2016, was meant to entice the public and consumers alike, to be involved in activities that would raise awareness on the importance of standards in their daily lives. With that in mind, the event received encouraging support with approximately 1000 participants taking part in the run.



Launching of the World Standards Day Fun Run 2016

CERTIFICATION PROGRAMME

It has been stipulated in the Communications and Multimedia (Technical Standards) Regulations 2000 that communications equipment and persons who wish to conduct any activities within the prescribed realm of expertise, has to be certified to ensure compliance to the standards and level of competence that has been determined.

The entire certification programmes are executed by registered certifying agencies appointed under Section 186 of the Communications and Multimedia Act 1998 (CMA 1998), with the exception of amateur radio operator certification, which is personally handled by MCMC.

Radio Communications and Global Maritime Distress and Safety System (GMDSS) Familiarisation Course (RCGF)

Through the conjoint action of MCMC and Malaysian Maritime Academy (ALAM), two specific training sessions for a duration of five days were executed in 2016. The training had been intended to bolster the competency of MCMC's personnel who are involved in the certification programme, particularly in the field of maritime radio systems, rules and its operations. The training encompasses both theory and practical sessions, including visiting the vessel, Bunga Mas Enam.

Computerised RAE at the 1Malaysia Internet Centre

At the outset of 2016, MCMC had initiated the computerised amateur radio examination (E-RAE) at six selected 1Malaysia Internet Centres (PI1M) all over the country, as listed in the table below. The E-RAE sessions are carried out once a month and is expected to replace the written examination format in the future. In fact, the E-RAE session is able to eliminate the lengthy process in conducting written examination, and candidates are able to get their results immediately at the end of the E-RAE session.

List of PI1M selected for the Computerised Amateur Radio Examination (E-RAE) 2016

No.	1Malaysia Internet Centre	District	States
1.	PI1M Semenyih	Semenyih	Selangor
2.	PI1M Kuala Berang	Hulu Terengganu	Terengganu
3.	PI1M Taman Klebang Utama	Ipoh	Perak
4.	PI1M Kg. Sri Jaya	Kota Tinggi	Johor
5.	PI1M Kg. Tanjung Bundung	Samarahan	Sarawak
6.	PI1M Muhibah Putatan	Kota Kinabalu	Sabah

Check Your Label Campaign

An educative campaign, 'Check Your Label' is an effort to awaken the public's awareness on the importance of purchasing communication equipment that are endorsed with the MCMC label to indicate that the item has been approved and is safe for usage. The public are also advised and encouraged to check the MCMC label to ascertain the authenticity of the label found on any given communication equipment that are being sold. They can do so by downloading the 'Check Your Label' mobile application from the PLAY STORE/GOOGLE PALY and APP STORE.

TECHNOLOGY AND SOCIETY

Active campaigning dominated the scene throughout 2016 with the embarkation of numerous promotional programmes. One such example is the 'Check Your Label' advertisements that were strategically positioned in several places such as at Low Yat Plaza, AEON hyper market, campuses of higher learning institutions in Klang Valley, PLUS Expressway, MEX Expressway, LPT Expressway, main roads in the east coast, Kuching International Airport, Kota Kinabalu International Airport and Miri bus station. Apart from that, there were also various exhibitions or briefings involving MCMC in the 'Click Wisely' programme, as well as invitations for MCMC's representatives to appear as guest speakers at events organised by the industry or government agencies.



E-COMMERCE AND POSTAL AFFAIRS

EMPOWERING THE NATION'S E-COMMERCE

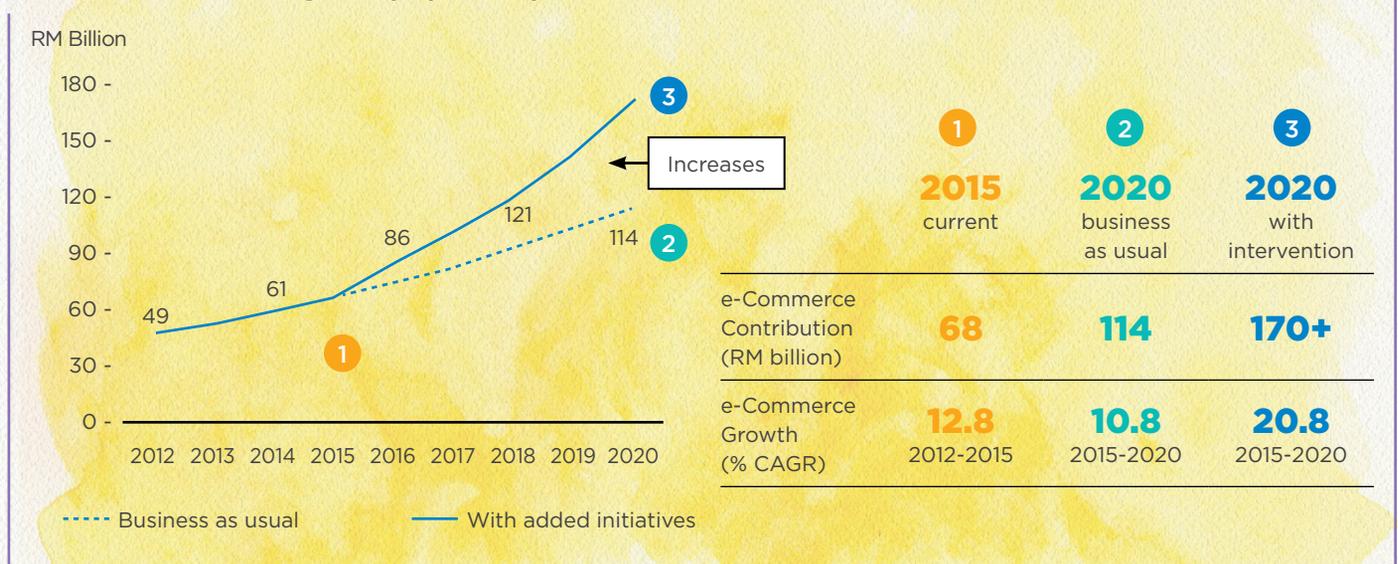
A high and still rising Internet usage and penetration rate, coupled with the introduction of e-services that is propelled by progress in the highly competitive delivery services industry, has contributed towards accelerating the realms of e-commerce in Malaysia. Going by conservative estimate, the postal and courier services industry has amassed earnings to the tune of RM4.4 billion in 2016, against a backdrop of 112 courier license holders nationwide. The Malaysian courier service sector is spurred by multinational courier giants, local establishments with extensive network throughout the nation, as well as small delivery companies that cater to a niche market.

Developing and Promoting the E-Commerce Ecosystem

MCMC is at the forefront of the National E-Commerce Council (NeCC) to ensure the National eCommerce Strategic Roadmap (NeSR) fulfills its mission. Resulting from the 27th MSC Malaysia Implementation Council Meeting, which was chaired by YAB Prime Minister, NeCC was then established in October 2015 as an avenue to develop and promote e-commerce ecosystem in Malaysia.

Held for the very first time on 18 January 2016 and chaired by the Minister of International Trade and Industry, the NeSR meeting had identified six core areas of e-commerce. Over and above, the meeting also covers the crucial role of the postal and courier services industry in the deliverance of goods to consumers or what is succinctly termed as e-commerce fulfilment. The six core elements were further refined and dissected in planning its trajectory which aspires to multiply the nation's e-commerce growth from the initial projection of 10.8%⁵ in the year 2020, to 20.8%, with a yearly contribution value exceeding RM170 billion for the said year. The projection trajectory is as illustrated in the diagram below.

The nation's e-commerce growth projection by NeSR



Source: Malaysia's National E-Commerce Strategic Roadmap

e-Commerce fulfilment is without doubt one of the essential component in attaining the objectives of NeSR. With that in mind, a mini workshop organised by MCMC and MDEC, on the topic of e-Commerce Fulfilment and Non-Tariff Barriers was conducted on 19 April 2016 at MCMC. The endeavour had witnessed the attendance of 40 participants from 32 organisations, encompassing the entire public and private sectors. The attendees were very supportive by giving their input through the brainstorming session, with the aim of exalting e-commerce fulfilment, e-payment and matters relating to consumer protection.

⁵ Compound Annual Growth Rate

E-COMMERCE AND POSTAL AFFAIRS

MCMC also plays a role of being one of the eight lead agencies for the e-commerce fulfilment programme. There are 11 programmes that have been identified under the NeSR, and among others, MCMC's role include:

- i. coordinating and executing world class excellence programme concerning delivery to consumers;
- ii. monitoring and tracking the programme's Key Performance Indicators (KPIs) that have been determined; and
- iii. monitoring international developments and progress within the ambit of deliverance to consumers, as well as augmentation programmes to ascertain its relevance and competitiveness.

Being one of the lead agency for the e-commerce fulfilment programme whereby its membership is formed by the Association of Malaysian Express Carriers (AMEC), MCMC is also a member of the NeCC which convene twice yearly.

The Postal Services Act being among the Latest in the World

2016 has marked as a significant year which saw the granting of the universal service license under the Postal Services Act 2012 (PSA 2012) to Pos Malaysia Berhad (PMB) for a period of 20 years, until 2036, and it simultaneously repeals the existing license under the Postal Services Act 1991. The granting of the universal license is seen as a move to further solidify the deliverance of postal service to urban and rural consumers, in line with MCMC's responsibility of ensuring the postal service is accorded and relished by fellow consumers nationwide.

The PSA 2012 is a stepping stone for MCMC in transforming the postal and courier services regulatory system by

virtue of providing a progressive licensing and regulatory structure which is in accordance with various Free Trade Agreements (FTAs) that had been signed by the Malaysian Government, and which works in tandem with the changing landscape of the industry. Henceforth, the granting of the license would enable PMB to carry through its mandated task, so as to ascertain the continuity of its operations, besides bracing itself for the challenges and highly competitive market, brought about by metamorphic surroundings.

Moreover, the universal service license would allow PMB to render electronic postal services, which is in keeping with the digital services that are developing at exponential rates, such as the digital mailbox, e-letter, e-stamp, which are all regulated under the PSA 2012. These services would give consumers other alternatives, whether to opt for physical postal or digital service, or both. The electronic postal service is expected to bring significant impact in bolstering the rapid growth of the regional e-commerce industry.

Enhancing Postal Security Factors

Postal security is one of the main regulatory instruments documented under the PSA 2012 Technical Regulations. Postal security is highly critical as the postal and courier services can be misused in sending prohibited substances or items such as drugs, fire crackers, fire arms and forbidden medicines that could endanger handlers or recipient of the parcel. In view of this, PSA 2012 has accorded postal and courier service providers the power to inspect suspicious postal items to ensure that safety has been duly secured, which in turn would help build consumers' trust in the services.

The framework which adopts the provisions prescribed under PSA 2012 would help to ascertain:

- i. all the required security measures have been duly administered by postal and courier service providers;
- ii. the industry is protected in accordance with legal principles;
- iii. a positive perspective towards the industry in adopting security measures;
- iv. assistance is given to any related agencies in enforcement activities;
- v. protection of workers, assets as well as postal and courier items; and
- vi. uniformity and consistency in security practices within the sphere of the postal industry.

A postal security framework which concerns protection of the service providers' assets, postal items and training, are in the planning stage since 2016, and such process will involve regulations that are to be issued in stages until the dawn of 2020.

Drafting the Postal Items Inspection Guidelines

Threats on safety could always occur through the nexus of network in the postal and courier services industry. Thereupon, as the regulator of the industry, MCMC is in the midst of preparing a complete framework in order to ensure that threats towards the safety of the postal and courier services network is at the most minimum level possible.

In its preliminary attempt, the esprit de corps among industry players, enforcement agencies and MCMC had seen to their synergy in the final process of putting together the draft on guidelines in inspecting domestic mail parcel items. This document is meant to provide a thorough guide on the standard procedure of opening postal items. This effort is made due to the fact that prior to it, the existing guideline is only based on the respective authorities' and individual entities' operational procedure. With the existence of this guideline, all process of opening

postal items will be conducted in an ethical and systematic manner, in accordance to the prescribed procedure.

Establishing the Postal Service Fund

The Postal Service Fund is a strategic regulatory instrument under the PSA 2012, which will be established by MCMC as a means to assist the development of the postal and courier services industry. MCMC has therefore appointed an independent consultant on the grounds that the establishment of a Postal Services Fund would involve the imposition of levy on the industry's stakeholders. On that basis, a holistic study and formulation by the independent consultant is extremely vital in creating the best form of monetary fund.

Establishing the E-Commerce Fulfilment Access in the Rural Areas

MCMC has appointed 1Malaysia Internet Centre (PIIM) as the Registered Post Agent for the e-commerce fulfilment centre in the inland and rural areas as a means to facilitate rural folks in conducting their postal transactions at 100 PIIMs, including the posting of parcels and packages. This is clearly a time and cost saving effort as people from rural areas would no longer need to travel to town for the nearest post office which is on average 20 km away. The pioneer project has already been implemented at eight PIIMs located in several districts of Sabah and Sarawak.

Managing Address Issues

It is estimated to be almost 8.4 million premises all over the country and of the said total, approximately more than one million premises are still without numbers.

This matter has to be rectified to enable the people to savor a more ideal quality of life, especially in easing daily affairs,

including receiving packages and making e-commerce purchases.

The government, by virtue of MCMC and in collaboration with Pos Malaysia Berhad (PMB) has undertaken the Address For All Project, in which it is a programme that provide numbers to premises in the rural areas. Since 2015, over 36 thousand premises in Terengganu, Sarawak, Sabah, Johor and Kedah had been successfully allocated with numbers. This initiative has resulted in a positive impact on over 150,000 households. In the meantime, there are about 200,000 premises without numbers in rural areas that are targeted to receive a complete address by the year 2020. The materialisation of such venture is expected to have a more prominent direct impact involving 1 million population in the rural areas.

Progress Innovation in Postman Services

Viewing the role of a postman as a catalyst of change in elevating and advocating amenities for the rural communities, MCMC and PMB had launched the 'Smart Postman' mobile application which acts as an agent of transformation by connecting rural

communities to services such as e-commerce, e-payment and data suppliers, and thus, enhancing community services. To boot, it would also trigger the expansion of data penetration and telecommunications coverage for the rural communities, convey communal issues to the authorities, deliver information to businesses and local councils, and thereon, it will be benefited by more than 1 million rural population.

The outline of the Smart Postman programme involves 4,700 postmen and 2,000 courier dispatchers from PosLaju which travel by road, including in the rural areas. This programme functions through the use of a smart device that is placed in the postman's motorcycle carrier box, and each day the postman will interact with the system menu on the smart device. The Smart Postman pilot project had been successfully executed in the district of Kota Belud in Sabah, and Lundu in Sarawak.



E-COMMERCE AND POSTAL AFFAIRS

Tariff Rationalisation for Universal Postal Service

In concordance with the implementation of goods and services tax (GST) on mailing service by PMB, the postal rates for domestic and international universal postal service has been revised through the domestic and international tariff rationalisation proposal. The said rationalisation is part and parcel of the tariff setting process that has to be undertaken to ensure mailing services in Malaysia is provided in an efficient manner. All things considered, although the impact of the rationalisation on individual consumer is minimum as 95% of the mails are from the business and government segments, yet the tariff would not be a burden to the business sector as the main user of the mailing service, considering the postal services rate in Malaysia remains competitive in comparison with other ASEAN countries.

Success in Organising the APPU Executive Council Meeting

In unison with KKMM and PMB, MCMC had successfully organised the Asia Pacific Postal Union (APPU) Executive Council Meeting in Langkawi on 16 - 21 May 2016. Officiated by the Deputy Minister of Communications and Multimedia Malaysia, the event was attended by more than 150 representatives, including prominent Governmental figures and heads of postal companies from 25 countries (APPU is made up of 32 member countries). This event is the primary medium at the regional level in discussing postal issues and its importance. It also serves as an avenue for Malaysia to gain support from regional countries in being selected as a member of the Administrative Council when the Universal Postal Union (UPU) Congress takes place in Istanbul, Turkey. The event had received positive feedback from the attendees, particularly from the Director General of UPU and the Director of APPU himself.

Doing Malaysia Proud on the International Stage of the Universal Postal Union (UPU) Congress

At the 26th Universal Postal Union (UPU) Congress held in Istanbul, the Malaysian team did the country proud as it took on the international stage by virtue of several substantial triumphs that were attained, among which were the success of being chosen to sit on the UPU Council of Administration (CA) for the term 2017-2020. On the whole, Malaysia was placed among the top four countries with the highest number of votes. The achievement was made even more meaningful as Malaysia was given the trust to chair Committee 1 (Finance, Human Resources and Governance) together with Switzerland and become a member of the CA Management Meeting. By being a CA member, Malaysia automatically earns a place on board all existing CA Committees.

To top it off, Malaysia, courtesy of PMB, took home the Gold Award for International Express Mail Service (EMS), whilst attaining Level A* (A-Star) for International Mail Service Quality Management. In essence, these accomplishments are the manifestation of UPU's recognition of Malaysia's postal system. At the end of the Congress, PMB, on behalf of the Government of

Malaysia and as witnessed by the Malaysian Ambassador, had signed the UPU Acts, namely the Universal Postal Convention and Postal Payment Services Agreement which forms the legal basis of the existence of the universal postal system under the auspices of UPU.

Issuance of Malaysia's First International Definitive Stamp

1 October 2016 marked a historical moment for PMB with the launch of the International Definitive Series of Stamps that are used in dealing with letters sent overseas. The series of stamps present eight denominations which consist of the Festival stamp valued at 10 sen, Local Fruits (20 sen), Wildlife (50 sen), Unity (RM1), Places of Worship (RM2), Our Nation (RM5), Flora (RM10) and Handcrafts (RM20). The stamps were issued to streamline the implementation of GST on stamps beginning 1 October 2016. The diagram below displays the First Day Covers with International Definitive Stamps.

First day covers with international stamps



Source: Pos Malaysia Berhad

Other than international stamps, PMB had also issued 17 other thematic stamps throughout 2016. Among the fascinating stamps that had been issued were Malaysian Calligraphy, Penang Free School - 200 Years and Seven Wonders of Malaysia's Flora and Fauna.

STRATEGIC TRADE MANAGEMENT

Implementation of the Strategic Trade Act 2010 [Act 708] (STA 2010) draws an important chapter for Malaysia in consummating its international obligation which is in conformity with United Nations Security Council Resolution (UNSCR) 1540. STA 2010 provides control over export, transshipment, transit and brokering of strategic items and technology, including arms and related materials that will or may facilitate the design, development, production and delivery of weapons of mass destruction. STA 2010 was enforced on 1 April 2011.

MCMC has two functions under the STA 2010, first, as a licensing agency for the exportation of two categories of strategic items, which are computer and telecommunication items, as well as information security. Apart from MITI and MCMC, there are several other agencies involved in the licensing activities for other categories of strategic items which have been gazetted, including Atomic Energy Licensing Board and Pharmaceutical Services Division, Ministry of Health. Second, MCMC also acts as an enforcement agency for STA 2010, other than the Royal Malaysia Police, Royal Malaysian Customs and the Malaysian Maritime Enforcement Agency.

Licensing Activities under STA 2010

Throughout 2016, a total of 544 online permit applications using the E-Permit system were processed to export strategic items under MCMC's control. Of the said figure, as many as 525 permits were issued, whereas 19 applications were rejected due to lack of information.

DIGITAL SIGNATURE

Indicator DateTime Service (IDTS) is a digital service based on the Public Key Infrastructure (PKI) that is regulated under the Digital Signature Act 1997 (DSA 1997) and Digital Signature Regulations 1998 (DSR 1998). It is a value added service that may be provided by licensed Certifying Authority (CA) to clients in order to proof the existence of a digital file at a particular date or time as outlined by international standards.

As of 5 August 1992, the National Metrology Institute of Malaysia (NMIM) - SIRIM had been appointed as the National Timekeeper which is held accountable in providing an accurate source of date and time and which is certified by the international body in the preparation of this IDTS. The Department of Digital Signature (DSD) was given the opportunity to visit National Metrology Laboratory (NML), SIRIM to better understand and to personally study the procedure in generating indicator datetime that is recognised by the International Bureau of Weights and Measures (BIPM) in a controlled system.

In keeping with the progress in digital services, the need for IDTS has become part of the e-Government tender specification, such as for the Government Public Key Infrastructure Services (MAMPU), uCustoms (Royal Malaysian Customs) eTanah (Department of Lands and Mines), certified true copy Digitalisation Project (Companies Commission of Malaysia), as well as the insurance system.

Driven by high demands from government agencies and the private sector, the DDS has made this agenda apart of the strategic initiatives under the Communications and Multimedia Action Plan (2016-2020) by establishing a time indicator authority for a credible datetime indicator so as to ensure the CA that is supervised by MCMC is prepared and completely alert in supporting new needs, according to requests made by clients.

DIGITAL SERVICES

DIGITAL AND DATA SERVICES PLATFORMS

The undeniable potential of digital services to further invigorate the nation's progress in the communications and multimedia domain has compelled MCMC to incorporate the digital services development agenda into MCMC's Strategic Plan 2016-2020. Within the boundaries of this strategic plan, the digital services agenda asserts MCMC's commitment, whereby underlining its role as a facilitator in developing prime enabling initiatives, namely, Digital Identity (ID), Mobile ID, Open Data/Big Data and Cashless Payment. These initiatives are anchored by the concept of resource optimisation, which entails cooperation with multiple stakeholders across the sector, as well as the participation of industry players.

DIGITAL SERVICES ENABLEMENT PLATFORM

The essence of activities and programmes undertaken in 2016 gyrate around the issue of establishing collaboration with a variety of entities in the effort of realising digital services at the national level, as well as planning the deployment of three digital services enablement platforms, encompassing Digital ID and Mobile ID, Cashless Payment and Big Data/Open Data. All the activities that were executed continue to uphold MCMC's achievement in strategic initiatives, whereby providing the amenities in implementing national digital identity, developing open data platform and to spur the use of cashless e-payment.

Efforts in Advocating Government Digital Services

Building strategic alliance with the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU), in support of the public

sector digital services agenda has led to the organisation of various undertakings which among other things, saw to the optimisation of MCMC's resources. A few instances of MCMC-MAMPU's collaborative ventures include the organisation of national events called 'Public Sector Mobile Application Gallery Seminar' and the 'Appgen Competition Prize Giving Ceremony', which took place on 17 February 2016 and succeeded in attracting the attendance of more than 300 government officers from all over the country. The event was a tribute to contestants from the public sector who took part in the Appgen Competition, for displaying their creativity by innovating mobile applications to elevate the public service's delivery standards. MCMC played its role and sat on the panel of jury in judging the innovative work that were put forth in the competition.

With more teamwork between MCMC and MAMPU in several other strategic endeavours, MCMC was humbled by MAMPU's gesture in recognising the beneficial partnership by bestowing MCMC with a letter of credence which was presented by the Director General of MAMPU on 23 November 2016. The ceremony was held at the Sama Sama Hotel, KLIA Sepang in conjunction with the Public Sector CIO Convex Conference 2016. The official recognition was by virtue of the Public Sector Strategic Collaborative Network (JKSSA) for the period of 2016-2020. This acknowledgement would indirectly pave the way for MCMC to conduct more joint efforts with various other government agencies in advocating efforts of developing digital services.

MCMC-MAMPU continued the collaborative momentum by orchestrating another national programme which ran from

25 till 27 October 2016 for the Opening and Closing Ceremony of the 48 Hour Public Sector Hackathon Competition. The programme was held at the Auditorium of Old MCMC Headquarters Building in Cyberjaya and was officially launched by YB Datuk Joseph Entulu Belaun, Minister in the Prime Minister's Department on 25 October 2016.

Segregated into three categories, comprising of the government/industry sector (21 groups), public university (12 groups) and secondary school (four groups), the 48 Hour Public Sector Hackathon Competition steered ahead with a total count of 36 groups, after having attracted a crowd of 132 participants. The competition succeeded in its mission of spotting talented individuals be it within the circle of people in the public or private sector, among students from institutions of higher learning, as well as youths from secondary schools. The applications that were created and triumphed, inter alia, were innovations related to health and tourism.

On a slightly different terrain that concerns the development of online services, MCMC had stepped forward in supporting the Community Engagement Programme for the Development of Government Online Services 2.0 (CEP GOS 2.0). This programme was led by the Digital Services Unit, Office of the Chief Secretary to the Government (Office of KSN), which they in turn, had mandated the task of organising the event to the University Community Transformation Centre (UCTC), National University of Malaysia (UKM). As the programme journeys through the whole country, the MCMC CATI Centre played its part facilitating the entire process. Further to that, a crowd of 2,000 respondents are targeted to provide the required input for a survey that is to be conducted.

MCMC was also at hand to support efforts in developing Government Online Services 2.0 (GOS 2.0) infrastructure by means of collaborating with MAMPU, the Performance Management and Delivery Unit (PEMANDU), and the Malaysian Institute of Microelectronic Systems (MIMOS). The said agenda came into fruition through the organisation of Prelab 2 session for the Education Cluster's GOS 2.0 Workshop, which went on for five days beginning from 1 till 5 August 2016, held at MCMC Headquarters in Cyberjaya. The attendees consisted of 50 senior officials from the Ministry of Higher Education Malaysia who are involved in structuring policies and system development for their respective division. MCMC was invited for a presentation on Digital Identity as part of its crusade in sharing knowledge and consideration regarding the development of a digital identity platform that is to be utilised for government online services.

DIGITAL IDENTITY INITIATIVES

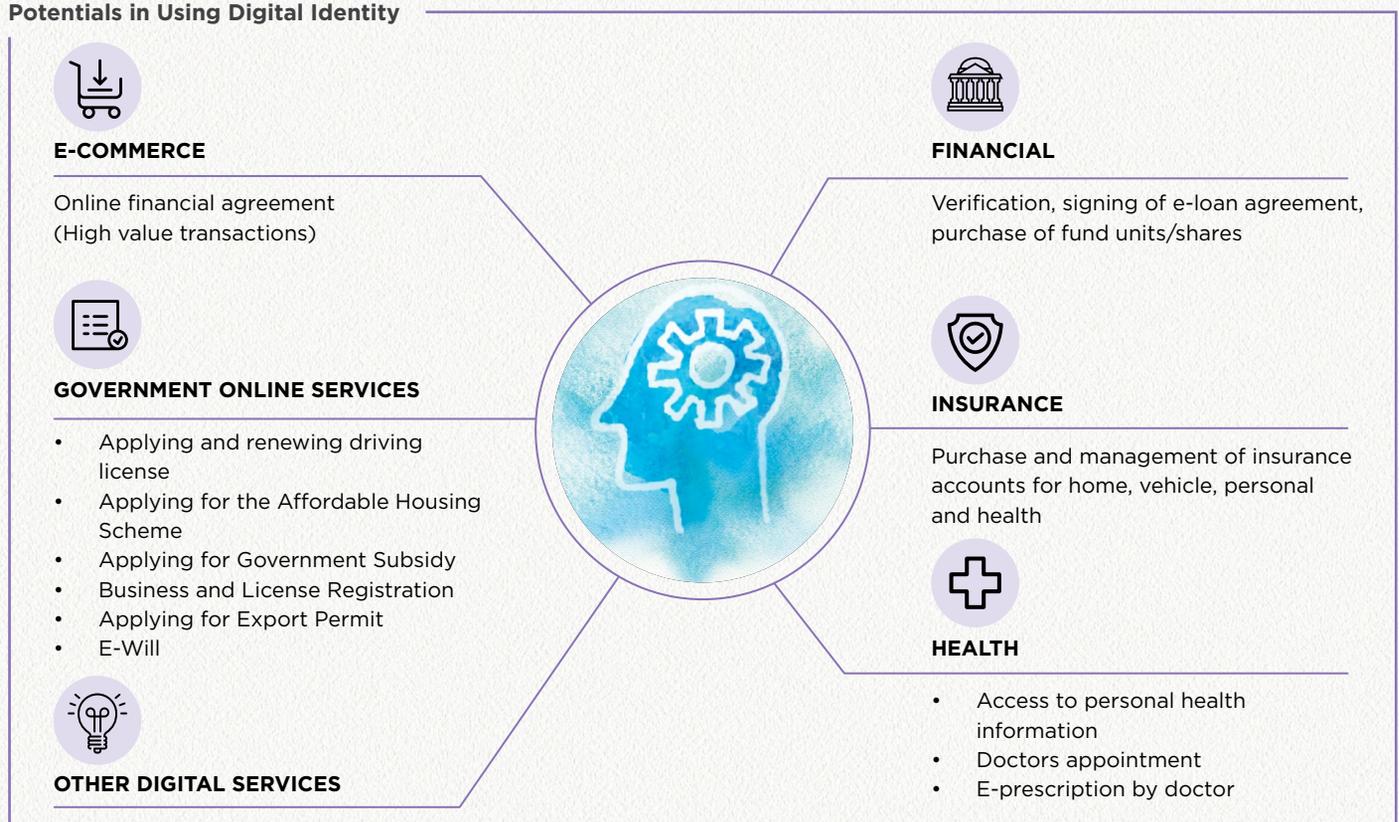
The implementation of digital identity is seen as a digital enablement platform, whereby its importance has been recognised to stimulate growth and potentials of digital economy, and thereupon, to transform the country into a smart nation along with a smart community. Joint synergies with a

variety of stakeholders is undoubtedly a vital approach that contributes to the accomplishment of developing digital identity. On the whole, throughout 2016, MCMC had exerted all forms of measures and activities in propelling the development of digital identity by embracing the aspects of Governance, Research and Development (R&D), as well as Promotion and Awareness.

The implementation of digital identity demands in-depth consideration on numerous critical areas in terms of policy, performance strategy, approach, model or method, technology and cost. Considering the implementation of digital identity is expected to be employed by the Government and private sector, it is therefore imperative to conduct a consultative discussion involving various digital service providers and diverse stakeholders such as MAMPU, National Registration Department of Malaysia, Ministry of Home Affairs as well as major industries, in drafting the best possible strategy to realise the said objective.

Adoption of digital identity holds the potential of heightening utilisation of digital services among users, whether it is provided by the Government or by private entities as online services are made easier whilst curtailing the risk of privacy and data safety.

Potentials in Using Digital Identity



MCMC has taken a few initial steps towards governance by officially appointing agencies that have been identified able to take on the role and support the development of digital identity through the submission of a letter of appointment as representative. As representatives, the agencies will sit in the Working Committee for the Study on the Preparedness and Digital Identity Implementation Landscape in Malaysia.

Additionally, MCMC is also a member of the following ISO Working Group for the development of standards related to digital identity:

- i. WG/G/5-5 Working Group - Identity Management and Privacy Technologies;
- ii. WG/G/5-8 Working Group - Identity Proofing; and
- iii. ISO/TC 290 Committee - TC/C/4 - Online Reputation under the Malaysian Association of Standards Users.

In pursuing research and development (R&D) as a means of advancing a befitting digital identity for Malaysia, the following workshops were conducted through MCMC's strategic partnership:

- i. Workshop 1 - Workshop on the Study of Preparedness and Digital Identity Implementation Landscape in Malaysia, carried out from 28 till 29 March 2016, at Marriott Hotel, Putrajaya.
- ii. Workshop 2 - Workshop on the RFP Draft Outline, held from 4 till 5 April 2016 at MCMC, Cyberjaya.

Promotional and awareness programmes were also on MCMC's agenda and being put forth through knowledge sharing sessions that were organised with multiple agencies, as indicated below:

- i. A knowledge sharing session with Mr. Ahmad Abu Hantash, a consultant from PriceWaterhouseCoopers (PwC), United Arab Emirates (UAE). He expounded on UAE's journey in implementing Digital Identity, Electronic Government and Digital Services during a session which took place at MCMC, Cyberjaya from 4 till 5 April 2016, watched by a crowd MCMC's officers and its strategic partners.
- ii. By working shoulder to shoulder with MAMPU, a seminar entitled 'Government Online Services 2.0' had brought forth the MINWON 24 initiative, as presented by Mr. Byungjin Kim and Mr. Yang Seokmo from the Ministry of Interior, Republic of Korea.

Not forgetting the masses, on 27 August 2016, an article focusing on digital identity appeared in a Malay language newspaper, Utusan Melayu, with the heading 'Bina Kebolehpercayaan Terhadap Perkhidmatan Digital Negara'. The write-up was meant to stir the public's awareness on the potentials and benefits of using digital identity in daily lives which is increasingly dependant on digital services.



DISCHARGING CASHLESS PAYMENT INITIATIVES

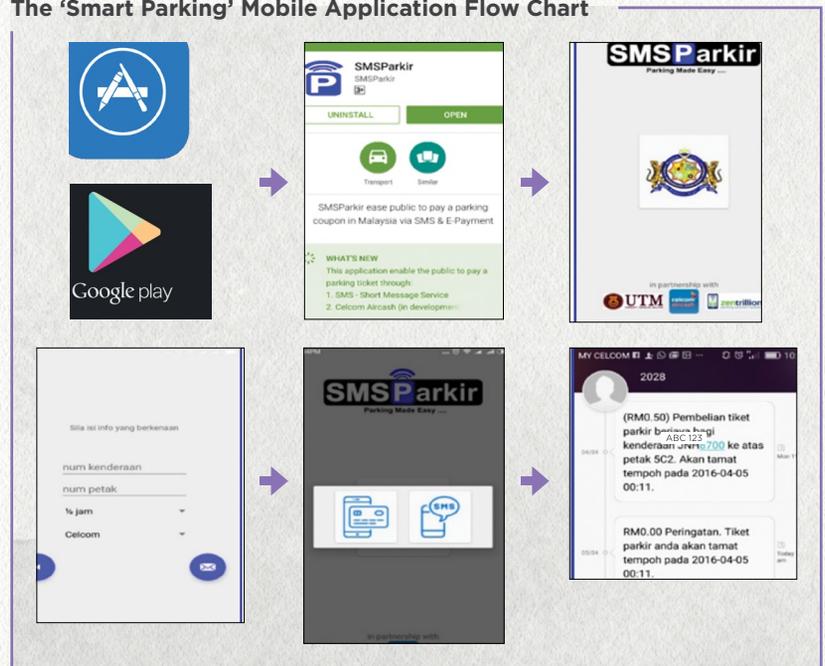
Identified as one of the three major enablers in the implementation of digital services, the main objective of cashless payment is to spur the use of online payment transactions for all public and private services in the country. To accommodate such aspiration, MCMC collaborated with the telecommunications industry players, fintech startups and other parties within the realms of digital services in order to execute the strategy of adopting cashless payment as part of the digital lifestyle among fellow Malaysians.

Sandboxing through the Smart Parking Initiative

'Smart Parking' is an initiative undertaken by MCMC in order to facilitate cashless payment innovation and it is a pilot project made possible by Celcom with the cooperation of Johor Bahru Tengah Municipal Council (MPJBT), Universiti Teknologi Malaysia (UTM) and Zen Trillion. The said project had utilised the technology developed by UTM and applying it to MPJBT's car park area. All transactions made by users were recorded throughout the sandboxing period which officially kicked off on 1 May 2016 and ran until 31 July 2016.

Transactions that were gathered during the three-month trial period was encouraging and it proved that Malaysians are ready to take on the innovation as it was helpful, especially in terms of upgrading MPJBT’s parking management. Not only was it able to optimise the limited parking spaces in the face of increasing vehicles, but it had also proven to be a time-saving and efficient system in collecting parking fees. As for Celcom, the ‘Smart Parking’ venture had realised the network effect. Most importantly, feedback from the public on the ‘Smart Parking’ system was positive, whereby it offered the convenience of transacting parking payment through ‘Airtime SMS’, which meant parking fees were charged and entered into their respective telephone bills.

The ‘Smart Parking’ Mobile Application Flow Chart



With the success of the ‘Smart Parking’ pilot project, it had raised avid interest among several other telecommunication companies, wanting to be included in the ‘Smart Parking’ e-payment platform which was geared by Zen Trillion in collaboration with MPJBT.

As for research and development, MCMC’s continuous advocacy for it had seen its engagement in conducting demonstrations and information sharing sessions with Malaysian cashless e-payment industry activists, for the purpose of viewing and considering the variety of service applications that are available in the market, besides reconnoitering for opportunities to join forces in suitable ventures, one of which involves showcasing a Sandbox project for the ‘Smart Putrajaya’ cashless e-payment initiative.

MCMC had also proceeded with promotional and awareness activities for the cashless payment initiative through programmes that were organised by MCMC and also through invitations received from external agencies, which are as follows:

Tarikh	Butiran
18-19 February 2016	Debuting the electronic payment system by Maxis, which concerns the mPOS facility, through the Niah-Suai Smart Community programme in Sarawak.
26-27 February 2016	Illustrating the electronic payment method by Maxis and Pos Malaysia, meant for the mPOS facility, during the launch of the Lundu Smart Community programme, in Sarawak.
17-19 May 2016	MCMC participated in the SMIDEX 2016 exhibition organised by SME Corp at the Kuala Lumpur Convention Centre, which also saw the participation of MyClear, Pos Malaysia, Maxis and Prime Keeper.
22-23 November 2016	Leveraging its cooperation with Pos Malaysia, MCMC took part in an exposition in conjunction with the Public Sector CIO Convex Conference 2016 held at Sama Sama Hotel, KLIA Sepang , to bring forth e-Commerce, Smart Postman and Digital Letterbox services to the throng of visitors who came, including YBhg. Tan Sri Dr. Ali Hamsa, Chief Secretary to the Government.

DIGITAL SERVICES

DEVELOPMENT OF BIG DATA AND OPEN DATA INITIATIVES

Throughout 2016, MCMC persisted in its mission of supporting the implementation of National Big Data Analytics (NBDA) which is headed by the Ministry of Communications and Multimedia Malaysia (KKMM), by orchestrating numerous tasks so as to actualise big data and open data agenda that are segregated into several areas such as Governance, Research and Development (R&D), as well as Promotions and Awareness.

To adopt governance in the big data initiative, KKMM's Secretary General has officially appointed MCMC by virtue of an appointment letter, to be the Data Champion and Data Approver. MCMC was also selected to sit on the committee of a collaborative programme between MAMPU and the Open Data Institute, UK, through the formation of the 'MAMPU Open Data Champion for the Public Sector Open Data Implementation Capability Reinforcement Programme in Collaboration with Open Data Institute (ODI), UK'. Likewise, MCMC was chosen to be on board the Open Data Review Assessment (ODRA) Steering Committee which is led by MAMPU, based on its alliance with the World Bank.

MCMC's engagement in the big data development agenda are as listed below:

Tarikh	Butiran
18 May 2016	Participated in 'Workshop 1 Big Data Development' which was held in KKMM, Putrajaya. MCMC had proposed two use case models to be deliberated by KKMM: <ul style="list-style-type: none">- Quality of Telecommunication Services- Postal and Courier Services
13 June 2016	Big Data Development Meeting in KKMM, Putrajaya, chaired by KKMM's Deputy Secretary General (Policy)
28 June 2016	Took part in 'Workshop 2 Solidifying KKMM's Use Case in the Public Sector Big Data Project Phase 2' at KKMM, Putrajaya.
11-12 August 2016	Took part in 'Workshop 3 Solidifying KKMM's Use Case in the Public Sector Big Data Project Phase 2' at Ancasa Residence, Port Dickson.

In summary, it could be said that MCMC's exertion in a multitude of activities based on digital services throughout 2016 will be a curtain-raiser for MCMC in accelerating national effort, and instantaneously accomplishing the country's agenda in digital economy.

DIGITAL INNOVATION

NKEA: EPP 3 e-Wallet System in Putrajaya

Through the Digital Innovation Department, MCMC had collaborated with PrimeKeeper Malaysia Sdn Bhd to carry through e-Wallet system in Putrajaya. The cashless payment system which was designed by PrimeKeeper had been approved on 12 April 2016 by the Minister of Communications and Multimedia Malaysia as one of the initiatives under NKEA for the Communications, Content and Infrastructure sector which happens to be the main project under the monitoring of KKMM and the Performance Management and Delivery Unit (PEMANDU), as listed under 'EPP3: Connecting 1Malaysia'. This venture is categorised as a high impact project which is able to connect many consumers with the existing banking system, including credit card transactions to allow users the convenience of performing online dealings.

Support for the development of digital services was made more apparent through the sponsorship extended to PrimeKeeper by the private sector, that is Axiata Digital Innovation Fund and Silverlake Private Equity, whereby these entities will finance the implementation of the company's system. In fact, conviction towards PrimeKeeper's e-wallet system received a boost upon winning second place at the Global Islamic Finance Forum 5.0: ASEAN Fintech Challenge, organised by VISA and the Association of Islamic Banking Institutions Malaysia (AIBIM).

Cognizant of the potential that the application holds, MCMC and Perbadanan Putrajaya (PPj) saw the possibilities for it being adopted by residents of Putrajaya in advancing a cashless e-payment ecosystem within the locality. In the near future, users of the application would also be able to transact payments such as assessment, parking and various other charges, such as renting sports equipment, halls and many more. This application will be made available in 2017.

Digital Trust Index

Of late, cybercrimes have been on the rise and it comprise elements of fraud, damages or modifications to programmes or computer data, stealing of information, hacking, and so forth. Despite the fact that Internet is the latest mode of communication in disseminating information and knowledge, there are however, certain quarters who have misused such amenity to spread inaccurate information, odious ideology, propaganda and improper content.

Such a scenario has more or less undermined consumers trust towards Internet in Malaysia, with regards to the utilisation of existing digital services system. The Malaysian Government's effort to boost and restore trust among Internet users, has brought about the identification of an initiative by MCMC, which concerns a system that measures digital trust. This system allows the measurement of trust level be carried out on digital services that are available in the country. Such measurement is based on the existing digital sector and will be summarised into an index and will be known as the Digital Trust Index.

The gist of the index would allow Internet users to express their views and faith towards digital services in the form of a survey. Collated information will enable all involved parties, be it from the government or private sector, to draw out a specifically targeted intervention programme in order to improve and elevate their services. The index will be measured from year-to-year, beginning from 2018 for it to be reflective of the users' actual level of faith and trust

towards the Malaysian digital services. The Digital Trust Index is currently at a research stage and at present, MCMC is seeking to form close alliance with various government agencies and private sector that are involved, as a means to acquire their views and opinions in accomplishing this initiative.

To assure the success of the Index, MCMC has teamed up with a representative from the International Telecommunication Union (ITU), Professor Jun Kyun Choi who happens to be an authority in Digital Trust. On that note, a workshop on the subject of 'Digital Users' Digital Trust Index' was conducted on 25 October 2016 with the hopes of sharing information, insight and expertise with stakeholders, comprising of government agencies and private companies.

Among the topics that were brought to fore by Professor Choi included the concept of digital trust, business model anchored on the principle of digital trust, strategies in attaining information trust through digital infrastructure, as well as the background on digital trust index which he is pursuing at the ITU level.



Professor Choi presenting his study on the concept of Digital Trust to attendees at the workshop

DIGITAL SERVICES



Workshop participants listening to the concept of Digital Trust, being presented by the maestro in the said field, Professor Choi

In furtherance to the agenda on Digital Trust, a discourse was carried out to examine the possibilities of establishing a Digital Trust Index (DTI) in Malaysia. The presence and collaboration between agencies and private companies at the workshop which was held, had unified all the available resources in terms of manpower and expertise in the sphere of digital economy as a means to elevate the quality and erudition of Consumer Digital Trust Index.

LEAD:				
AGENCIES:				
				
TELCOS:				

Government agencies and private firms involved in the Digital Trust Index Workshop

e-Health: Malaysia Telemedicine Conference 2016

Through the Digital Innovation Department, MCMC, in collaboration with Monash University, CREST, Sunway Medical Centre and Ministry of Health Malaysia had organised the Malaysia Telemedicine Conference which took place at the Sunway Medical Centre (SMC) on 16 - 18 August 2016 and was officiated by Director General of Health, Ministry of Health Malaysia (KKM), Datuk Dr. Noor Hisham Abdullah. The conference attests MCMC's pursuit in aiding and impelling the ecosystem, in addition to amplifying the use of e-health services in Malaysia.

The conference had succeeded in laying the groundwork for cooperation between the public and private sector to discuss the latest vision and mission in augmenting the quality of telemedicine in Malaysia. Along with that, current issues such as medical research and new innovations in telemedicine was also deliberated in detail.



Fellow presenters at the Malaysia Telemedicine Conference 2016 entering the hall, led by Director General of Health, Datuk Dr. Noor Hisham Abdullah. The event was conjointly organised by KKM, MCMC, Monash University and SMC.

In conjunction with the conference, a program titled 'Telemedicine Innovation Challenges 2016' was also held. The event had attracted the participation of 12 teams with diverse proficiency in the realm of medical and information technology, exhibiting their wits and solutions in three main areas of telemedicine, namely, mHealth, SMART Nursing Station and the open category.



A contestant of the Telemedicine Innovation Challenge 2106 explaining her solution to the visitors

In essence, the conference had gained from resource optimisation, as it had enabled government and private medical agencies to combine forces and expertise with the intent of advancing telemedicine technology in Malaysia. Moreover, it was also an avenue for students, engineers and fellow workers in the medical field to effectuate and realise new ideas.

Notably, MCMC, KKM, CREST and Monash University had taken the conference to the next level by proposing the formation of a Telemedicine Development Group (TDG), with the main aim of intensifying teamwork between the private and government sectors, hence giving impetus to the growth and success of telemedicine in Malaysia.

DIGITAL CREATION AND DISTRIBUTION PLATFORM

In step with the strive of optimising the nation's resources, Cabinet Members were in agreement for the rudimentary framework in executing the migration of Free-To-Air (FTA) television (TV) broadcasting services from analog to digital to be initiated in 2005.

With that in mind, KKMM, through MCMC, has been tasked with the role of ensuring the broadcast transition from analog to digital is carried out in stages to the very end with complete closure of the analog broadcast being targeted by Jun 2018.

A National Broadcasting Digitalisation Project had been formed and geared with the hopes of upgrading the country's broadcasting system from analog to digital whilst simultaneously maintaining the concept of free TV channels for all Malaysians.

Digital Terrestrial TV broadcasting technology is all about optimising spectrum usage, and therefore, offering more channels and programmes as compared to analog broadcasting, hence, living up to its propensity of resource optimisation.

To further expound this fact, digital broadcasting system is able to broadcast up to 13 TV channels on one spectrum band, whereas an analog technology could only broadcast one TV channel using the same spectrum band.

Against this backdrop, a Digitalisation Pilot Project was exerted in November 2005 by Radio Television of Malaysia (RTM) for a period beginning 2005 till 2007, with the said broadcast covering the Klang Valley area. Feedbacks from the project were encouraging and full of positive vibes from all parties involved.

NATIONAL BROADCASTING DIGITALISATION PROJECT

Through yet another attempt at optimising the Government's financial resources, Cabinet Ministers had given their consent in 2010 for the National Broadcasting Digitalisation Project to be spearheaded by the private sector and implemented by means of adopting the build, own and operate (BOO) method. Aside from reducing the Government's cost and commitment, this approach had also allowed the government to take on the role of a facilitator and providing the necessary support so as to ensure the company remain viable by virtue of earnings generated from content broadcast. This principle lives up to the actual concept of project actualisation which fully exploit the Private Finance Initiative (PFI).

By dint of that decision, and following a tender process, MYTV Broadcasting Sdn Bhd (MYTV), formerly known as Puncak Semangat Sdn Bhd, was appointed in April 2014 as the Common Integrated Infrastructure Provider (CIIP), and is therefore accountable for developing, operating and managing the Digital Terrestrial TV services in Malaysia.

With CIIP already in place, the FTA broadcasters and new broadcasters would not need to invest in infrastructure facilities such as TV transmitters, but instead they are only required to rent the Digital TV platform access from MYTV. This in turn would allow FTA TV broadcasters a more fitting allocation to create and develop engaging contents, whilst saving on operational cost.

DIGITAL SERVICES

Over and above, under the CIIP concept, FTA TV broadcasters would be able to transmit Digital TV channels through the sharing of common infrastructure, and with that, access to the Digital TV platform is much lower in comparison to analog TV.

TV Broadcast Coverage

As at the end of April 2016, transmission coverage are made possible by 14 Digital TV transmitters which covers 85 percent of the populated area in Malaysia and this simultaneously complete and conclude the implementation of service infrastructure for Phase 1 of the Digital Terrestrial TV. Currently, there are nine FTA Digital TV that are being broadcast.

The division of coverage percentage in populated areas nationwide under Phase 1 are as stated in the table below.

Population Coverage for every Digital TV Transmitter Site

No.	Transmitter Site	State/Territory	Population Coverage	Percentage of Population Coverage
1	Gunung Ulu Kali	Selangor/Central	1,754,293	6.42%
2	KL Tower	Federal Territory/Central	4,252,145	15.57%
3	Bukit Sungai Besi	Federal Territory/Central	2,427,642	8.89%
4	Bukit Bakar	Kelantan/Eastern	1,511,457	5.53%
5	Bukit Besar	Terengganu/Eastern	567,642	2.08%
6	Bukit Pelindong	Pahang/Eastern	677,197	2.48%
7	Gunung Jerai	Kedah/Nothern	3,684,478	13.49%
8	Gunung Kledang	Perak/Northern	1,773,744	6.49%
9	Gunung Pulai	Johor/Southern	2,136,295	7.82%
10	Gunung Ledang	Johor/Southern	1,513,151	5.54%
11	Gunung Andrassy	Sabah	451,602	1.65%
12	Bukit Karatong	Sabah	1,035,326	3.79%
13	Bukit Trig	Sabah	516,932	1.89%
14	Gunung Serapi	Sarawak	922,329	3.38%
Estimated Total of Populated Coverage			23,224,233	85.02%

Notes:

- i. Based on the Population and Housing Census of Malaysia 2010, the total number of population was 27,313,205 people; and
- ii. The population coverage analysis had utilised MYTV's CHIRplus_BC v.6.0.1.1 device.

Distribution of Trial Decoder Sets

A total of 20,000 units of trial decoder sets or Set-Top-Box (STB) were distributed by MYTV to participants who took part during the testing period in the Eastern, Central, Northern, Southern, Sabah and Sarawak territories.

A survey which was conducted to obtain feedback from viewers who participated in the testing had indicated that viewers, almost entirely, had voiced their satisfaction on the Digital TV’s broadcast quality.

There are many advantageous to Digital TV broadcast, whereby it doesn’t just offer better quality in terms of picture and sound, but what is most attractive is that it presents more free channels, access to Electronic Program Guide (EPG), subtitles in multiple languages and the pleasure of watching TV in High Definition (HD).

Distribution of Free Decoder Sets

On account of the positive feedbacks received from respondents who were given the trial decoder sets, MYTV had proceeded with the distribution of free decoder sets to qualified 1Malaysia People’s Aid (BR1M) household recipients beginning of September 2016.

As at the end of December 2016, a total of 253,220 units of free decoder sets were distributed in stages in five states, as indicated below:

Distribution of free decoder sets from September till December 2016

States	Total
Kelantan	62,252
Terengganu	40,715
Pahang	52,086
Kedah	83,223
Perak	6,280
Total	253,220

Checking the Eligible Recipients of Complimentary Decoder Units

Malaysians can check whether they have been selected to receive free decoders through the website www.mytvbroadcasting.my or through mySMS 15888 service or by contacting MYTV’s Customer Service Centre at 1300-80-6988.

Checking on the recipients of free decoders via the website www.mytvbroadcasting.my

Unit Dekoder Percuma

Penerima Unit Dekoder Percuma dipilih dari kalangan penerima terbawah dalam senarai Bantuan Rakyat 1Malaysia (BR1M) 2016 dan beralamat di kawasan liputan myFreeview.

Sila semak melalui SMS dengan menghantar MYTV Dekoder NoKP ke 15888, atau hubungi Pusat Khidmat Pelanggan MYTV 1 300 80 6988 untuk sebarang pertanyaan.

HANTAR

Pemasang Berdaftar

Penerima MYTV Basic dan pembeli MYTV Advance dinasihatkan untuk membuat pemasangan sendiri berpandukan Panduan Pemasangan yang disertakan bersama set dekoder.

Bagaimanapun, sekiranya anda memerlukan bantuan pemasangan antenna luaran, caj pemasangan standard RM180 (termasuk antenna) akan dikenakan. Bagi yang memerlukan bantuan teknikal selain daripada pemasangan antenna pula, caj minimum sebanyak RM50 akan dikenakan.

Klik di [sini](#) untuk senarai Pemasang Berdaftar berhampiran anda.

Checking on the recipients of free decoders via SMS

Untuk Semakan SMS Penerima Unit Dekoder Percuma, taip;

MYTV<jarak>DEKODER<jarak>NoKP
& SMS ke 15888

Contoh: MYTV DEKODER 800112045378 → 15888

www.mytvbroadcasting.my | 1300 80 MYTV | 1300 80 6988


Caj penghantaran RM 0.15 | Caj penerimaan RM 0.20 (Tidak termasuk GST) | Perkhidmatan tersedia bagi Celcom, Maxis, Digi, U Mobile dan Tune Talk.
* Kelewatan penerimaan SMS mungkin berlaku disebabkan trafik semakan yang tinggi

DIGITAL SERVICES

For those who are not eligible to receive free decoders, they can purchase the MYTV Advance decoders which will be sold in electrical shops and at selected Pos Malaysia branches throughout the country beginning January 2017.

Differences between Complimentary Decoders and Commercial Decoders sold in electrical shops

Basic Decoder

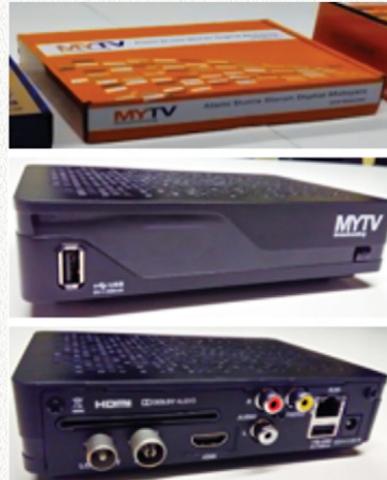


Complimentary Decoders

Main Features:

- FTA
- EPG Schedule
- Over the air (OTA) upgrading
- Complete with HD

Advanced Decoder



Commercial Decoders (for sale)

Main Features:

- FTA
- EPG Schedule
- Over the air (OTA) upgrading
- Complete with HD
- Complete with Internet
- Catch-Up TV
- Video On Demand
- Shopping
- SMS Voting
- Online games
- Booking services
- Applications on Demand

Integrated Digital TV (IDTV)

Digital TV broadcasting is also made available to viewers by means of IDVT, which is a television that comes complete with internal decoder. IDTVs are already in the market and can be bought from electrical shops all over the country.

Among the IDTV brands available in the market that are able to receive Digital TV broadcast



Programmes for TV Manufacturers and Retailers

The development of standards is absolutely crucial and it has to be in tandem with the progress in communications and multimedia technologies that are rapidly evolving. In view of this, in 2013, MCMC had mandated the use of Digital Video Broadcasting Terrestrial Second Generation (DVB-T2) as the accepted standard in Malaysia.

Premised on such mandate, certification of the Digital TV device, namely the IDTV and decoder were pursued throughout 2016. Total number of certification that were issued by SIRIM in 2016 are as listed in the tables below.

List of decoders certified by SIRIM

No.	Decoder	Product Brand	Date of Approval	Total No of Certification
1.	MYTV Broadcasting Sdn Bhd	Basic Decoder (DVB-T2) MYTV	18/07/2016	1
2.	MYTV Broadcasting Sdn Bhd	Advanced Decoder (DVB-T2) MYTV	11/11/2016	1
Total				2

List of IDTV brands certified by SIRIM

No.	TV Manufacturers	Total No of Certification
1.	Samsung	147
2.	Sony	70
3.	Panasonic	47
4.	Sharp	37
5.	Singer	1
6.	LG	70
7.	Toshiba	20
8.	Philips	8
Total		400

Consumer Labels

As of January 2016, MCMC, by virtue of SIRIM had introduced a special label in its effort to assist consumers in purchasing televisions or decoders that are able to receive Digital TV broadcast. It is meant to protect consumers by ensuring all communications equipment that are available in the market unflinchingly comply with technical codes and are safe for usage.

This special label serves as an educational and awareness instrument, whereby providing assurance to consumers during the purchase of receiver equipment, be it in the form of a decoder or IDTV, that it has been verified and is in compliance with the required standards, thus, allowing consumers the pleasure of viewing free Digital TV broadcast.

DIGITAL SERVICES



During the Digital Terrestrial TV Services in Malaysia Seminar



The Malaysian DTTV Label which helps consumers identify Digital TV device

To streamline the whole process, MCMC, in partnership with Malaysian Technical Standards Forum Berhad (MTSFB), SIRIM, MYTV and Media Prima had organised a seminar titled Digital Terrestrial Television Services in Malaysia which took place on 29 November 2016 at MCMC's Former Auditorium. The seminar was intended to convey the latest information to TV manufacturers and retailers on the implementation status of Digital TV Terrestrial service in Malaysia.

Educational and Awareness Programme

The roll out of an effective educational and awareness campaign commencing on 21 September 2016 in the east coast region was among the attempt in expediting the closing of analog TV broadcast, and for that reason, it is essential to ascertain the public is prepared to migrate to a new platform called Digital TV.

As consumers, the public has to be informed in an effective manner and educated on the benefits of Digital TV in order to spur and accelerate the process of migration.

This programme is spearheaded by MCMC, and Media Prima Sdn Bhd had been appointed to create and provide numerous form of campaigns in collaboration with the Broadcasters' Alliance and MYTV, whereby exploiting a variety of platforms, such as the electronic media, billboards, newspapers, Internet, as well as on-ground events for a period of two years (2016-2018) until the very end of the Analogue Switch-Off (ASO).

In promoting the service of free channels on Digital TV, the Broadcasters' Alliance had invented a branding for the said service by introducing 'myFreeview' labeling for the Digital TV broadcast services, which is receivable through the UHF aerial and MYTV decoder or IDTV. This platform offers all the currently available and popular TV and radio broadcasts for free, without any subscription fees.



myFreeview logo which introduces and promote free Digital TV channels

The educational and awareness programme in the East Coast kick-started with the distribution of 250,000 leaflets on 'Frequently Asked Questions', along with the answers, followed by newspaper and radio advertisements. Moreover, the website www.myfreeview.tv was also launched to enable the flow of further information to consumers.

Readiness for the Launch of Digital TV

Following the educational and awareness campaign launch in the East Coast in September 2016, the preparation for Digital TV's debut went into full gear. The timeline for the launch at the national level has been scheduled for 2017, which is immediately upon achieving coverage availability exceeding 85 percent of the populated area, in addition to ascertaining that MYTV Advance commercial decoders are readily accessible in the market.

Anchored by excellent audio and visual fascination in digital quality, and further boosted by a myriad of interactive elements, the complimentary Digital TV services is a much awaited alternative to the existing services and is therefore welcomed with open arms by fellow Malaysians.

GEOSPATIAL SERVICES

Development and Implementation of Communication Infrastructure Permit Management (CIPM) System

The Geospatial Services Department has built a bridge of cooperation with state governments and the Local Authorities (PBTs) in implementing and adopting the CIPM system which is web based, so as to facilitate permit renewal process and in monitoring the status of communication structures at the PBT and state level.

The adoption of CIPM throughout the country was proceeded in stages. To date, several states, including Perak, Kedah, Perlis, Melaka, Kelantan, Terengganu, Pahang, as well as DBKL have consented to adopt CIPM in each PBT of the respective states or territories. Consumer Requirements Study Workshops were also conducted in the said states and it is currently in the midst of updating and keying in the data into the system.

The CIPM system does not just benefit the PBTs, but telecommunication companies (telcos) also stand to gain from the system in the following ways:

- i. Facilitate telcos in applying for permit renewals, whereby telcos only need to submit documents that are required by respective PBTs, via the system;
- ii. Assist telcos to conveniently check the yearly fee rate that are being imposed, directly via the system; and
- iii. Serves to inform telcos on the number of structures and the total amount for permits that are payable and have to be settled in the current year.

DIGITAL SERVICES

Following are part of the activities that were undertaken in the spirit of teamwork with the State Economy Planning Unit (UPEN) and PBTs.

- i. A Training and Utilisation of CIPM System Workshop was conducted in collaboration with UPEN and the Kedah State PBT. The event took place in Langkawi from 11 till 13 April 2016, and the opening ceremony as well as the press conference was held with the attendance of YB Dato' Noor Sabrina Mohd Noor, the Kedah State Science, Innovation and Information Technology, Communications and High Technology and Human Resources Committee Chairman;
- ii. Held in Cameron Highlands, a Training and Utilisation of CIPM System Workshop with DBKL had proceeded from 9 to 11 December 2015, which saw briefing being given by Mr. Norsam Mohd Yusoff;
- iii. PBT Melaka and Perlis were present for the Training and Utilisation of CIPM System Workshop, which ran from 15 till 16 February 2016 in Bukit Tinggi.

Application Programming Interface (API) for Data Sharing and Integration between Systems

Application Programming Interface or abbreviated as API, is a form of language command in programming that is used in the interaction between two different applications to communicate so that information can be shared with each other without having to go through the process of translating or remodifying the programming code.

MCMC has taken the initiative of adopting the API for the purpose of interaction between the telcos' system and MCMC's internal system, hence allowing them to send information regarding the operations of 1Malaysia Internet Centre (PI1M) to MCMC via API.

All data regarding PI1M which concerns the network, training information, PI1M proceeds, users, members and PI1M supervisors' attendance can be periodically channeled to MCMC and can be accessed by MCMC's users through a central system for the purpose of monitoring and conducting analyses.

CIMS-USP JavaScript

CIMS-USP JavaScript is a module within the Communication Infrastructure Managements System (CIMS) which has been enhanced so as to allow users access to CIMS through various web browsers and different devices.

CIMS-USP JavaScript can be accessed by telcos as data owners and internal users as well as MCMC's top management in order to conduct analyses and reports in the form of graphs, as well as an impressive dashboard, which is concise and easy to comprehend.

What makes it more appealing is that CIMS-USP JavaScript enables and eases planning aspects to be carried out in a more detailed manner, whereby serving as an aiding tool for the management in making decisions based on numerous information that have been amassed. In furtherance to that, the management would be able to plan their actions and devise solutions founded on the variety of information that are acquired from the said module.

Developing MyCOMMS Mobile Application

MCMC has developed MyCOMMS mobile application that is compatible using both Android and iOS platforms. It is able to display communication services and infrastructure according to location, based on the Augmented Reality (AR) technology.

Among the features of MyCOMMS mobile are as follows:

- i. Allow access to different contents for different groups;
- ii. Renders virtual scenery for the purpose of displaying point-of-interest (POI), whether in map display or using the telephone camera by means of AR technology;
- iii. Provide coverage information based on 2G, 3G and LTE network service technologies that are available in Malaysia;
- iv. Public users could immediately experience network performance in particular locations in Malaysia; and
- v. The public can give feedbacks to MCMC regarding the current status of network services in certain areas based on GPS location.

This application is available in the App Store (MCMC MyCOMMS) and Play Store (MCMC MyCOMMS) and can be downloaded by the public.

Section

05



: DELIVERING SUSTAINABLE VALUES

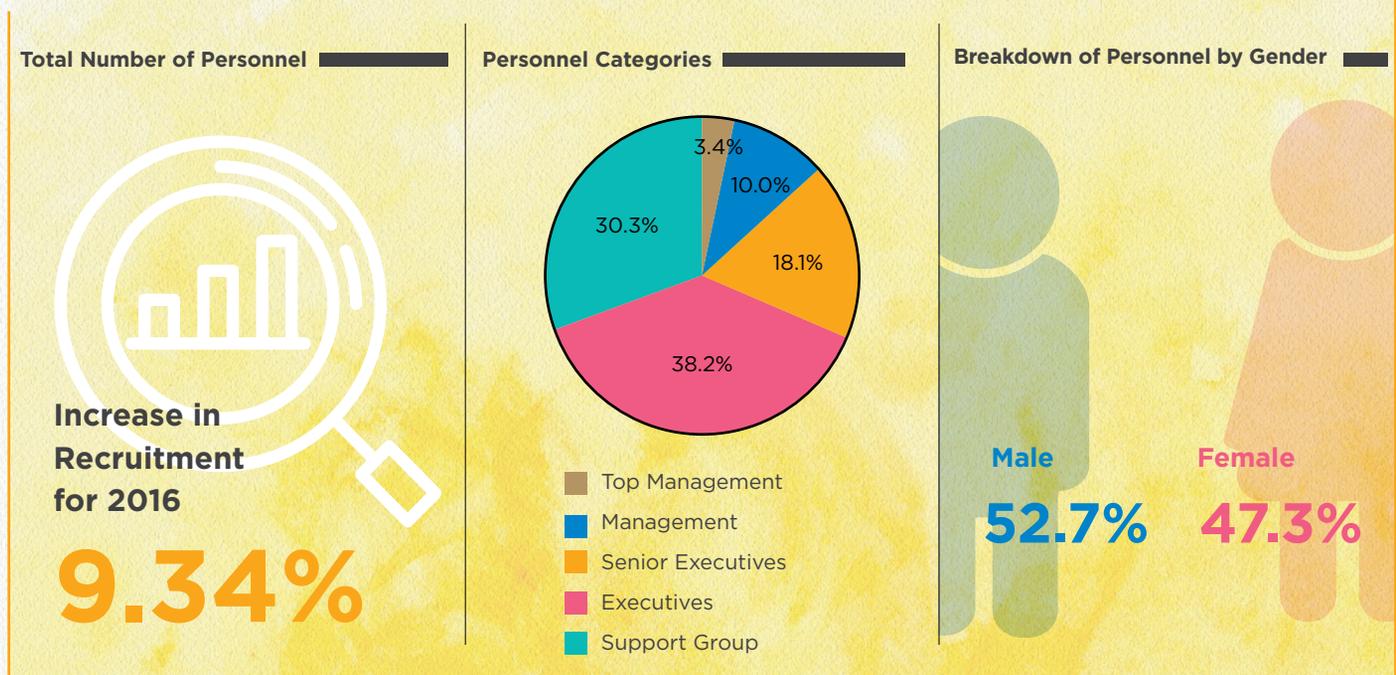
HUMAN CAPITAL DEVELOPMENT

COMPETENCY DEVELOPMENT

In consonance with changes that were undertaken in the organisational structure, MCMC, through its Human Capital Management and Competency Development (HCMCD) Division, has centred its effort on the recruitment of MCMC staff in key growth areas. In consequence, the number of MCMC personnel has increased to 787 or 9.34% as compared to the previous year.

To ascertain that only candidates of quality are chosen, this year, the Program Assessment Centre (PAC) continued its mission of mapping the best suitable job based on competency. Overall, three PAC sessions were conducted which witnessed the turnout of 355 candidates in total.

MCMC Personnel Information



COMPETENCY DEVELOPMENT

A structured profiling process that is sustainable, followed by feedbacks that are geared towards leadership development serves to magnify work-competency compatibility, entrench leadership aptitudes and create a healthy organisational climate. In affirming that the succession plan management meet the needs of MCMC, the accomplishments of each individual is given due recognition so as to propel continuous development and provide motivational boost, while simultaneously retaining staff.

In this year, a structured leadership development outline was shaped by uniting Individual Development Plan (IDP) and the leadership transition development program at various level of management. This development program combines experience-based learning, mentoring, coaching, classes and any other related methods that are divulged. This course of action would also help to reinforce staff's competency in molding leadership skills, cultivating leadership style of language, as well as providing the framework and approach in behavioral changes.

Sustainable Engagement

For the very first time, a survey on Work Satisfaction Level was carried out to gauge staff's reaction towards MCMC as an organisation and providing space for feedbacks. The task of conducting the survey was entrusted to an international company, Willis Tower Watson (WTW).

The survey result appeared to be favourable as MCMC managed to pull a 94% participation and 87% sustainable engagement, whereby surpassing the standard level indicator. The positive achievement as manifested through the sustainable engagement index is intertwined with several contributing factors, which are the working and organisational environment, as well as an encouraging esprit de corps. On that note, an action plan was devised, guided by feedbacks obtained from the survey, as a means of enhancing the organisation in the future.

The Employer of Choice Branding

To ensure the recruitment process in getting quality staff succeed, especially among outstanding graduates, a number of employer branding endeavours were executed in collaboration with TalentCorp and several universities. In 2016, MCMC had taken part in eight career exhibitions which were held throughout the country's main universities and at Jobs Central.

In the same year, MCMC was ranked 55th among 100 employers in Malaysia by GradMalaysia during the 'Malaysia's 100 Leading Graduate Employers 2016' award giving ceremony, organised by GTI Media. This proved that MCMC is gaining ground and also stands as an employer of choice for fellow graduates waiting to embark and fly high in their respective careers.

MCMC C.A.R.E. (*Community Assistance, Relief and Education*)

This pursuit encompasses three primary activities, namely, Leaders Turun Padang, Knowledge Sharing and Together with the Community Programme. In 2016, three programmes had been put together and each of the programme bear different themes such as education, environment, social, culture and heritage.

The principal goal of MCMC CARE is to exalt employees' involvement, consistency in commitment to work and willingness to invest time and energy for the sake of achieving the organisation's aspiration. Over and above, this programme serves as a propeller and self-motivation in carrying out their daily duties and obligations.

MCMC CARE provides the doorway for staff to contribute actively to society by embedding positive values. The activities administered inspires the optimisation of talents whilst nurturing the virtues of mutual respect and appreciation.

Moreover, this two-pronged initiative is able to bolster MCMC's branding, strengthen its bond with the community and weave the threads of cooperation with numerous agencies.

Fundamentally, the MCMC CARE programme is a window to discovery and never less than an avenue to empower the community in its effort of promoting local products and places of interest through the utilisation of 1Malaysia Internet Centre.



HUMAN CAPITAL DEVELOPMENT

COMPETENCY DEVELOPMENT

MCMC CARE Tanjung Piai

A GoGreen initiative was realised through MCMC CARE Tanjung Piai which seek to reduce carbon footprint. The drive is about inculcating awareness of environmental sustainability by harnessing all effort in planting mangrove seedlings and cleaning the mangrove area in Tanjung Piai National Park, in the attempt of protecting and preserving the mangrove ecosystem in Malaysia.



Planting mangrove seedlings and cleaning the mangrove area.



Capturing memorable moments as MCMC staff pose with their self-made sampan jong.

Against such beautiful backdrop and serenity, the programme was also injected with merriment by showcasing traditional game called *sampan jong*, which is a cultural heritage courtesy of the fishermen from Tanjung Piai.

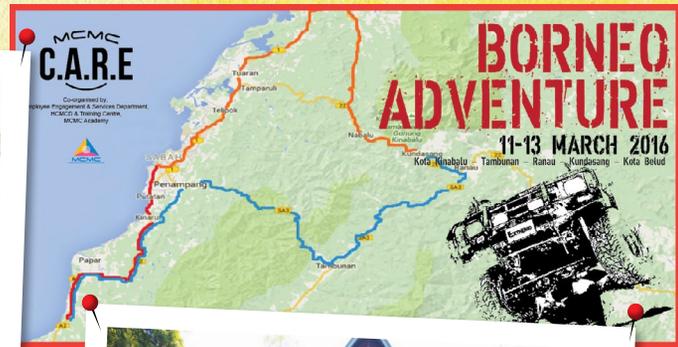
MCMC CARE
Borneo Adventure

Travelling as far as Sabah, the MCMC CARE Borneo Adventure was the first programme in 2016 which called for the involvement of its staff.

The activities that surrounded this venture was enriched with educational and social elements as it centres on the community affected by earthquake.



Welcomed with a cultural show by students from SK Tungou, Ranau.



Handing over the contribution of ICT equipment to Rafflesia Center, Ranau.



A 'Click Wisely' programme in SK Tungou, Ranau.



Memories are forever engraved with teachers, staff and students of SK Tungou, Ranau.

MCMC CARE Beyond Borders

For the very first time, MCMC CARE Beyond Borders witnessed staff's engagement and bonding with an aboriginal community in Lubuk Legong, as well as the community across the Malaysian boundary, which are the Muslim people from Yala Province, Thailand.

Several form of donations were handed over to both the communities, to ease the strain of livelihood. The programme in Yala also saw the presence of the Deputy District Officer.

HUMAN CAPITAL DEVELOPMENT

LIFELONG LEARNING

The MCMC Academy was established in conformity with MCMC's vision, which strives to develop, propagate and strengthen knowledge in the realms of communications and multimedia, specifically in terms of legislation, development and regulatory. The three main constituents of the MCMC Academy are:

- i. The Training Centre;
- ii. The Knowledge Management and Resource Centre (KMRC); and
- iii. Institutional Research, Liaison and Collaboration

Training Centre

Measuring up to the needs of developing human capital in MCMC, the Training Centre takes on the task of ascertaining that it continue its momentum in executing internal training programmes, besides managing and arranging external training programmes that are required by the staff, including those conducted overseas. In 2016, the Training Centre had achieved 5,277 days of training, whereby exceeding its key performance indicator (KPI) which aims for 4,000 days of training.

2016 In Summary



Apart from that, 2016 proved to be a productive year with the publication of a book titled 'Convergence - A Communications and Multimedia Policy and Regulatory Guide'. The book contains 15 modules which touches on the aspect of policy, legislation and numerous endeavours pursued by MCMC in developing and regulating the communications and multimedia industry in Malaysia. Publication of the book took nine months of production which the writings were contributed by MCMC's internal experts.

Grounded in the objective of presenting a thorough understanding on regarding policies, the roles and tasks undertaken by MCMC, the guide book is especially targeted at MCMC's fellow officers themselves, whilst being a good source of reference for the industry, statutory bodies and students of higher learning.

Further to the publication, a structured training programme instrumented by the modules contained in the said book was initiated, beginning from November 2016.

Optimising the Utilisation of Resources

In assuring the optimal use of resources achieve its predetermined KPI, the Training Centre had conducted the following activities:

- i. Organising internal training programmes which resulted to cost-effectiveness, besides offering more room and opportunity for staff participation. The higher number of attendance among staff and the ability to construct programme contents according to MCMC's specific needs are among the obvious outcome of this initiative;
- ii. Collaborating with internal and external parties in executing more programmes that are not able to be undertaken solely by the Training Centre; and
- iii. Embarking on a methodical training programme so as to elevate the potency of training programmes in its entirety.

Knowledge Management and Resource Centre (KMRC)

Since began operating in 2000, KMRC, which is now part of the MCMC Academy, has been commissioned with the duty of storing, compiling and organising information resources. Moreover, it is also tasked with conducting various activities in order to ignite a knowledge and information sharing culture among staff and the industry as a whole. Therefore, to ensure the utilisation of resources is optimised to the fullest, KMRC steps forward and make certain that all form of undertakings meet the information sharing requirement and is benefited by all.



Tea Talk @ 3 session

Among the activities actualised by KMRC throughout 2016 were:

i. **Tea Talk @ 3**

Tea Talk @ 3 is an avenue which aspires earnest and intelligent discourse, focused on sharing knowledge and latest, up-to-date information regarding telecommunications, multimedia, technology and current issues. Throughout 2016, 16 Tea Talk @ 3 sessions were held, with guest speakers from among MCMC's personnel, as well as experts in a variety of fields.

ii. **(dot)myConvergence**

Organised and coordinated by KMRC, the *(dot)myConvergence* magazine has been in publication since 2007. With the main focus of showcasing ventures and programmes pursued by MCMC throughout the year, the articles are written by MCMC's personnel as well as experts in their respective fields, within the context of the industry. In fact, it has become a quick referential copy for every programme involving MCMC.

iii. **Sharing the Jewel**

Each MCMC staff who has attended external programmes are encouraged to share their newly acquired knowledge with other colleagues in their respective departments. Normally, this session is held within a small group so as to ease the transfer of information. Additionally, the staff involved are also required to submit materials obtained from attending such courses or trainings to KMRC, for it to be shared and profited by all.

HUMAN CAPITAL DEVELOPMENT

LIFELONG LEARNING



iv. **Community of Practice (CoP)**

Continuing to fuel the spirit of sharing and camaraderie, CoP is a thoroughfare that allows everyone to connect with one another in any sphere of interest for mutual benefit. Generally, it encompasses those who are involved in projects, programmes or have common interest. Workshops, forums, talks and small group discussions are among the usual modus operandi which would witness the presence of scholars and experts, be it homegrown figures or foreigners specialists from telecommunication companies (telcos), post-graduate students, local community, as well as MCMC's very own personnel. Topics of discussion revolves around innovations in product development and new strategies, current trend and other related matters.

v. **Luncheon Series**

Opened to MCMC's staff, telcos and institutions of higher learning, dialogue and forum sessions appear to dominate this particular activity, whereby masters of the industry are invited to present their working papers on telecommunications and multimedia.

vi. **Lecture Series**

In the pursuit of inculcating a knowledge culture in the organisation, KMRC had formed alliances with several agencies in the telecommunications and multimedia industry, whether domestic players or from abroad, with the objective of disseminating and imparting knowledge, whilst hoping to inspire and be of value to all.

vii. **Knowledge Hub**

Knowledge Hub is a portal that has been built through teamwork with departments under the MCMC Academy. Deemed as a one-stop information centre, the hub was created for the purpose of diffusing the source of knowledge, relevant and updated information, activities conducted by the academy, as well as forums comprising of MCMC's staff and the industry. MCMC's staff and fellow industry players are able to access informative

materials by registering to the portal which is expected to be fully up and running in 2017.

INSTITUTIONAL RESEARCH, LIAISON AND COLLABORATION

MCMC is also responsible in cultivating a culture of cooperation and weaving the threads of unity between institutions in order to enhance capabilities and erudition, whilst ensuring the source of knowledge is readily available. It is by virtue of this sound knowledge that enables the accomplishment of its goal in drafting policies and effecting governance, anchored by findings and evidence from established research.

This endeavour is carried out through the Department of Institutional Research, Liaison and Collaboration (IRLCD) as the secretariat for the Networked Media Research Collaboration Programme (NMRCP), which entered its fourth round of implementation and provision of grants this year. Other than the department's direct assignment of urging institutions of higher learning (IPTs) to be involved in the NMRCP, it is also expected to form a working synergy with IPTs so as to allow network expansion, whilst generating local expertise. In addition to IPTs, the department has also created cooperation nexus with external organisations and related agencies, especially in supporting programmes and initiatives that contribute to the propagation of knowledge sources and inputs within the boundaries of communications and multimedia.

NETWORKED MEDIA RESEARCH COLLABORATION PROGRAMME

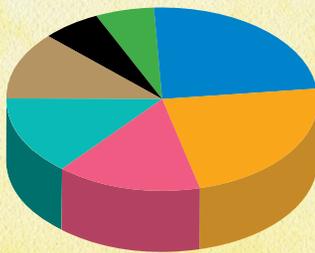
A total of eight research projects were chosen to receive the Networked Media Research Collaboration Program (NMRCP) grant at a presentation

ceremony held at MCMC's Headquarters on 11 August 2016. The overall total allocation for the Fourth Round of NMRCF research project was RM1.6 million, and the breakdown of proposal papers for each key area and the list of eight projects that were chosen are as follows:

Illustration on the 4th Round of NMRCF, 2016

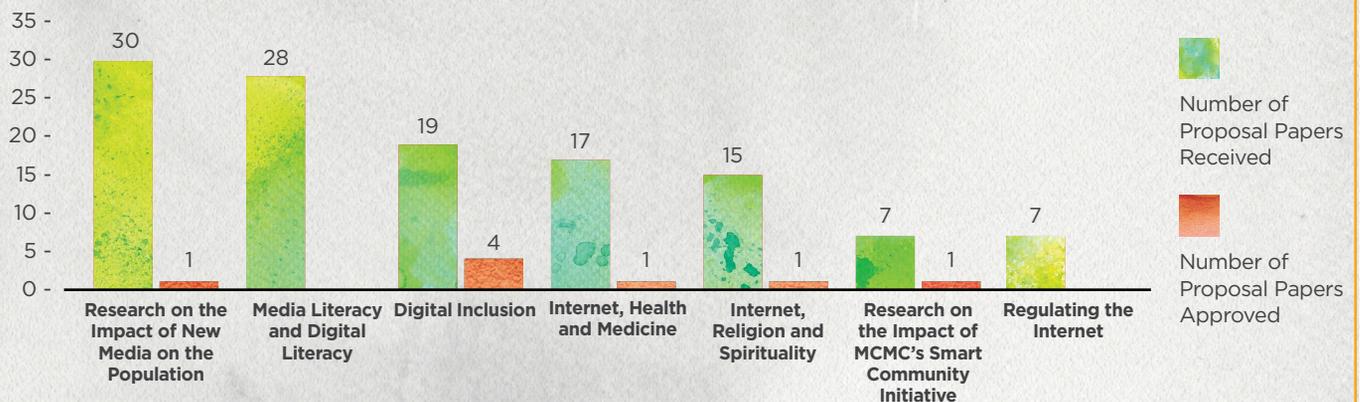
THE ESSENCE

The Breakdown of 123 Proposal Papers by the Research Focus Areas



- 24%** — Research on the Impact of New Media on the Population
- 23%** — Media Literacy and Digital Literacy
- 15%** — Digital Inclusion
- 14%** — Internet, Health and Medicine
- 12%** — Internet, Religion and Spirituality
- 6%** — Research on the Impact of MCMC's Smart Community Initiative
- 6%** — Regulating the Internet

Number of Proposal Papers Received and Approved



8 CHOSEN PROJECTS

Sunway Uni	Touch and Feel it? A 3D Touch-Sound Virtual Object Modelling to overcome the Internet Surfing Limitations for PWD of Vision	USM	Research on the Impact of MCMC's Smart Community Initiative
UIAM	Internet and Persons With Disabilities: Implications on the Digital Inclusion Policy	UTAR	Does Smart Phone Change Human's Interaction?
UITM	Digital Inclusion for the Marginalised Community, Including Senior Citizens and the 1Malaysia Internet Centre Audit	UIAM	Attitude in Using the Social Media According to Maqasid Al-Shariah, Values and Religion among Islamic Students in Malaysia
UPM	ICT Development and Acceptance and Its Effect on Cultural Identity among the Sabah Community	HWUM	A Cyber Well-being Centre Framework: Prevention for Hard-core Internet Users Intervention Programme

Overall Total Allocation & Projects RM1,661,776.52

Networked Media Research Collaboration Programme

HUMAN CAPITAL DEVELOPMENT

LIFELONG LEARNING

CONVERGED TELECOMMUNICATIONS POLICY AND REGULATIONS - COLLABORATION BETWEEN MCMC, GSMA AND MMU

The merging of synergies, by virtue of a Memorandum of Understanding (MoU) which was sealed in 2015 between three parties, namely, MCMC, GSMA and Multimedia University had succeeded in outlining and actualising the Master's Degree in Governance and Converged Telecommunications Policy and Regulations (CTPR) Programme. Subsequent to that, in 2016, amendments to the proposed syllabus and teaching staff were submitted for the approval of the Malaysian Qualifications Agency (MQA), and the receipt of authorisation from them is expected to happen in 2017. This Master's Degree targets the enrolment of those who are involved in the industry, government agencies and regulators within the boundaries of the Asia Pacific region who aspires to elevate their erudition, expertise and perspective in its entirety, hence preparing their respective organisations in handling issues pertaining to policies and regulations.

In the meantime, while waiting for the official approval to offer the Master's Degree programme, and in order to leverage the dexterity and proficiency derived from the allies of the MoU, trainings, related to policies and regulatory are already being offered since 2015.

In 2016, two CTPR Master Class training sessions were conducted, with regards to the CTPR Master Class for Smart Digital Nation, Cities and Communities, which ran from 15 till 17 August 2016 in Cyberjaya, and; the CTPR Master Class for ASEAN Countries, held from 21 till 25 November in Bandung, Indonesia. Aside from the secretariat and teaching staff comprising of the three main partners, the programme in Bandung was also made possible with the participation of its local partners, namely Telkom University, Bandung, Indonesia (Tel-U) as well as the ASEAN regulatory bodies, which includes the Indonesia Telecommunication Regulatory Authority (BRTI), the National Broadcasting and Telecommunications Commission of Thailand (NBTC), Infocomm Media Development Authority (IMDA) Singapore and the United Kingdom Telecommunications Academy (UKTA). The whole agenda was made more eventful with the presence of the industry players, such as Telekom Malaysia (TM), Telkom Indonesia and Axiata Group.

FULBRIGHT - MCMC GRANT

MCMC has also taken the liberty of forging a partnership with the Malaysian - American Commission on Educational Exchange (MACEE) which serves as an administrator in Malaysia for the world-renowned Fulbright Grant, under the educational exchange and professional enrichment programme for post-graduates and experts in Malaysia and the United States of America (USA). This collaboration, known as the Fulbright-MCMC Grant, sees to the development in competency and the transfer of knowledge within the realms of communications and multimedia, and is being made available from 2015 till 2019.

S e c t i o n

06



: HOW WE ARE GOVERNED

CORPORATE ADMINISTRATION

The Malaysian Communications and Multimedia Commission (the Commission) is governed by Members of the Commission that convene as often as possible to carry out the task that has been mandated to the Commission. In order to facilitate discussions and in aiding Members of the Commission in deliberating and making the right decisions during meetings, a meeting agenda together with a complete set of papers for cogitations are circulated in advance to all Members of the Commission. The circulation takes place a week before the date of the Commission Meeting. Throughout 2016, a total of six Commission Meetings were held, which translates into a frequency of once in two months. Below are the details of attendance at the Commission Meeting for the whole of 2016:

List of Attendance at the Commission Meetings throughout 2016⁶

Members of the Commission	Positions	Total Attendance
Dato' Sri Dr. Halim Shafie	Chairman	6/6
Dato' Sri Dr. Sharifah Zarah Syed Ahmad	Member	5/6
Dato' Mohid Mohamed	Member	6/6
Tan Sri Dr. Madinah Mohamad	Member	3/6
Datuk Watson Peters	Member	3/6
Datuk Hj. Md Afendi Datuk Hj. Hamdan	Member	6/6
Datuk Hj. Mohamed Hasnan Che Hussin	Member	5/6
Dr. Abang Azhari Abang Hadari	Member	6/6
Puan Sri Datuk Rohani Abdullah	Member	3/6

The Commission has also established several committees to perform its functions. Details of the Committees that have been set up along with the presence of Members of the Commission at the Commission Meetings are as indicated below:

i. The Disciplinary Committee Meeting

Members of the Committee	Positions	Total Attendance
Tan Sri Dr. Madinah Mohamad	Chairman	1/3
Datuk Hj. Mohamed Hasnan Che Hussin	Chairman	2/3
Datuk Watson Peters	Member	2/3
Datuk Hj. Md Afendi Datuk Hj. Hamdan	Member	3/3
Dato' Mohid Mohamed	Member	2/3

ii. The Nomination and Remuneration Committee Meeting

Members of the Committee	Positions	Total Attendance
Dato' Sri Dr. Sharifah Zarah Syed Ahmad	Chairman	3/3
Datuk Hj. Mohamed Hasnan Che Hussin	Member	3/3
Dr. Abang Azhari Abang Hadari	Member	3/3
Hajah Norizan Baharin	Member	3/3

⁶ Notes:

- i. Tan Sri Dr. Madinah Mohamad's appointment as Member of the Commission had ended on 2 September 2016 following her retirement as the Secretary-General of the Ministry of Education Malaysia
- ii. Puan Sri Datuk Rohani Abdullah was appointed as a Member of the Commission on 11 April 2016

iii. The Audit and Risk Management Committee Meeting

Members of the Committee	Positions	Total Attendance
Datuk Watson Peters	Chairman	6/7
Dato' Mohid Mohamed	Member	7/7
Datuk Hj. Mohamed Hasnan Che Hussin	Member	5/7
Datuk Hj. Md Afendi Datuk Hj. Hamdan	Member	5/7
Dr. Chin Yoong Kheong	Advisor	6/7

iv. The Tender Committee Meeting⁷

Members of the Committee	Positions	Total Attendance
Datuk Hj. Md Afendi Datuk Hj. Hamdan	Chairman	9/11
Dr. Abang Azhari Abang Hadari	Member	11/11
Datuk Hj. Mohamed Hasnan Che Hussin	Member	8/11
Dato' Mohid Mohamed	Member	2/11

In addition, the Commission's Chairman, Head of Sectors and Head of the Finance and Asset Management Division will gather for the Executive Management Committee (ExComm) Meeting to deliberate and determine their decision on matters that are brought forth to the Members of the Commission Meeting or the Management Committee Meeting (MCM). For the entire period of 2016, ExComm had convened 38 times.

As for the evaluation papers that require a more detailed discourse, the matter would be discussed at the Management Committee Meeting level. For the whole of 2016, MCM had convened 13 times.

Other issues regarding operational affairs are discussed separately at the Sectoral, Divisional and Departmental level of the Commission.

⁷ Dato' Mohid Mohammed became a member of the Tender Committee on 16 August 2016

MEMBERS OF THE COMMISSION



From left to right:

1

TAN SRI DR.
MADINAH
MOHAMAD

*Secretary-General,
Ministry of Education
Malaysia*

Tan Sri Dr. Madinah Mohamad was appointed as a Member of the Commission for a duration of two years, effective from 21 March 2014.

2

DATO' SRI DR.
SHARIFAH
ZARAH SYED
AHMAD

*Secretary-General,
Ministry of
Communications and
Multimedia Malaysia*

Dato' Sri Dr. Sharifah Zarah Syed Ahmad was appointed as a Member of the Commission for a duration of two years, effective from 22 December 2014.

3

DATO' MOHID
MOHAMED

*Deputy Secretary-
General (Policy),
Ministry of
Communications and
Multimedia Malaysia*

Dato' Mohid Mohamed was appointed as a Member of the Commission for a duration of two years, effective from 1 January 2015.

MEMBERS OF THE COMMISSION



4

DATUK WATSON
PETERS

*Non-Governmental
Member of the
Commission*

Datuk Watson Peters was appointed as a Member of the Commission for a duration of two years, effective from 16 January 2015.

5

DATUK HJ.
MOHAMED
HASNAN CHE
HUSSIN

*Non-Governmental
Member of the
Commission*

Datuk Hj. Mohamed Hasnan Che Hussin was appointed as a Member of the Commission for a duration of two years, effective from 24 July 2015.

6

DATUK HJ. MD
AFENDI HJ.
HAMDAN

*Non-Governmental
Member of the
Commission*

Datuk Hj. Md Afendi Hj. Hamdan was appointed as a Member of the Commission for a duration of two years, effective from 1 November 2015.

7

DR. ABANG
AZHARI ABANG
HADARI

*Non-Governmental
Member of the
Commission*

Dr. Abang Azhari Abang Hadari was appointed as a Member of the Commission for a duration of two years, effective from 7 November 2015.

8

PUAN SRI
DATUK ROHANI
ABDULLAH

*Non-Governmental
Member of the
Commission*

Puan Sri Datuk Rohani Abdullah was appointed as a Member of the Commission for a duration of two years, effective from 11 April 2016.

MCMC'S LEADERSHIP



1

DATO' SRI DR.
HALIM SHAFIE

Chairman



2

DR. MAZLAN
ISMAIL

*Chief Officer, Network
Security, New Media
Monitoring, Compliance
and Advocacy*



5

NORIZAN BAHARIN

*Chief Officer,
Communications,
Spectrum and Numbering
Management, Licensing
and Economic Regulation*



6

NUR SULYNA
ABDULLAH

*Chief Officer, Corporate
Strategy*



3

DATO' MOHD ALI
HANAFIAH MOHD
YUNUS

*Chief Officer,
Communications and
Digital Ecosystem*



4

TENGGU ZAIB RAJA
AHMAD

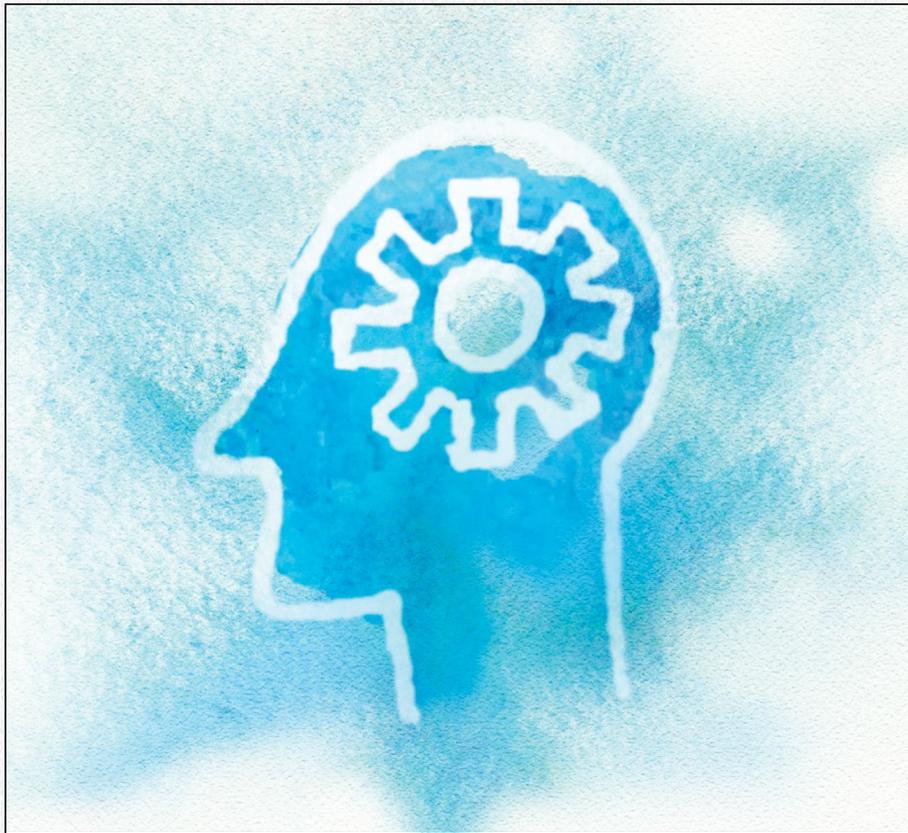
*Chief Officer, Corporate
Services*



7

ZULKARNAIN
MOHD YASIN

*Chief Officer, Network
Security and Enforcement*



OPTIMISING RESOURCES IN FULFILING THE
ECONOMIC AND SOCIAL NEEDS OF THE PEOPLE
OF MALAYSIA

S e c t i o n

07



: OUR NUMBERS

STATEMENT BY THE MEMBERS OF THE MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION

We, **Tan Sri Dr. Halim Shafie** and **Chin Yoong Kheong**, being two of the 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 139 to 168 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 2016 and of its income and expenditure and cash flows for the financial year then ended.

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



Tan Sri Dr. Halim Shafie



Chin Yoong Kheong

Selangor,
Date: 13 November 2017

MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION 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 139 to 168 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 in at Putrajaya Wilayah Persekutuan on 13 November 2017.



Cho Shi Chong

Before me:



INDEPENDENT AUDITORS' REPORT TO THE MEMBERS OF MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION

Report on the financial statements

Opinion

We have audited the financial statements of Malaysian Communications and Multimedia Commission ("Commission"), which comprise the statement of financial position as at 31 December 2016 of the Commission, and statement of income and expenditure and recognised gains and losses and statement of cash flows of the Commission for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, as set out on pages 139 to 168.

In our opinion, the accompanying financial statements give a true and fair view of the financial position of the Commission as at 31 December 2016, 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 members of the Commission 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 auditor's 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.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

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 MEMBERS OF MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION

Responsibilities of the members for the financial statements

The members of the Commission 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 members are also responsible for such internal control as the 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 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 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 MEMBERS OF MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION

Auditors' responsibilities for the audit of the financial statements (cont'd.)

- Obtain sufficient appropriate audit evidence regarding the financial information of the activities within to express an opinion on the financial statements. We are responsible for the direction, supervision and performance of audit. We remain solely responsible for our audit opinion.

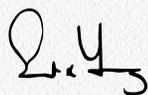
We communicate with the Commission regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Report on other legal and regulatory requirements

In accordance with the requirements of the Malaysian Communications and Multimedia Commission Act 1998, we also report that, in our opinion, the accounting and other records and the registers required by the Act to be kept by the Commission have been properly kept in accordance with the provisions of the Malaysian Communications and Multimedia Commission Act 1998.

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

AF: 0039

Chartered Accountants

Kuala Lumpur, Malaysia

13 November 2017



Nik Rahmat Kamarulzaman bin Nik Ab. Rahman

No. 1759/02/18 (J)

Chartered Accountant

STATEMENT OF FINANCIAL POSITION

AS AT 31 DECEMBER 2016

	Note	2016 RM'000	2015 RM'000 Restated	1 January 2015 RM'000 Restated
Assets				
Non-current asset				
Property, plant and equipment	3	521,167	636,881	606,174
Investment properties	4	356,000	285,411	-
		877,167	922,292	606,174
Current assets				
Other investments	5	2,630,000	1,600,000	1,950,000
Fees and other receivables	6	37,320	48,661	70,470
Cash and cash equivalents	7	362,719	247,786	364,150
		3,030,039	1,896,447	2,384,620
Total assets		3,907,206	2,818,739	2,990,794
Represented by:				
Accumulated funds	8	805,570	1,890,392	2,241,093
Liabilities				
Non-current liability				
Deferred income	9	2,261,275	71,838	80,059
Current liabilities				
Deferred income	9	491,232	522,290	368,929
Other payables	10	347,615	332,418	299,404
Current tax payable		1,514	1,801	1,309
Total current liabilities		840,361	856,509	669,642
Total liabilities		3,101,636	928,347	749,701
Total accumulated fund and liabilities		3,907,206	2,818,739	2,990,794

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 2016

	Note	2016 RM'000	2015 RM'000 Restated
Income			
Operating license fees	11	139,252	133,305
Spectrum fees	12	595,653	500,646
Interest income		71,379	75,298
Gain on disposal of property, plant and equipment		487	-
Reversal of impairment loss on fees receivables		83	-
Rental income	4	15,726	8,723
Other income	13	8,040	10,547
		830,620	728,519
Expenditure			
Employee benefit expenses	14	106,394	94,253
Administrative expenses		130,997	106,129
Special projects expenses		326,745	225,279
Industry development grant expenses		5,783	23,687
Audit fee		125	100
Rental expenses		6,872	11,561
Depreciation of property, plant and equipment	3	36,876	23,893
Impairment loss on fees receivables	6	400	844
Impairment loss on investment properties	4	98,222	-
Written off expenses		16	-
Rebate entitlement expenses		19,540	11,969
Other expenses		6,824	10,288
		738,794	508,003
Net operating surplus		91,826	220,516
Less: Payments made pursuant to Section 39(2) Malaysian Communications and Multimedia Commission Act 1998 (Act 589)		(159,131)	(550,000)
Deficit before tax		(67,305)	(329,484)
Tax expense	15	(17,517)	(21,217)
Deficit after tax representing total recognised losses	8	(84,822)	(350,701)

The notes form an integral part of these financial statements.

STATEMENT OF CASH FLOWS

FOR THE YEAR ENDED 31 DECEMBER 2016

	Note	2016 RM'000	2015 RM'000 Restated
Cash flows from operating activities			
Deficit before tax		(67,305)	(329,484)
Adjustments for:			
Depreciation of property, plant and equipment		36,876	23,893
Gain on disposal of equipment		(487)	-
Impairment loss on fees receivables		400	844
Reversal of impairment loss on fees receivables		(83)	-
Impairment loss on investment properties		98,222	-
Written off expenses		16	-
Interest income		(71,379)	(75,298)
Operating deficit before changes in working capital		(3,740)	(380,045)
Changes in working capital:			
Deferred income		2,158,379	145,140
Fees and other receivables		5,677	13,841
Other payables and accrued expenses		(16,584)	5,240
Cash generated/(used in) from operations		2,143,732	(215,824)
Payments made to Consolidated Fund pursuant to Section 38(3) of Malaysian Communications and Multimedia Commission Act 1998 (Act 589)		(1,000,000)	-
Tax paid		(17,804)	(20,725)
Net cash generated from/(used in) operating activities		1,125,928	(236,549)
Cash flows from investing activities			
Acquisition of property, plant and equipment	(i)	(58,168)	(312,237)
Acquisition of investment properties		(203)	-
Interest received		76,726	82,422
Proceeds from disposal of property, plant and equipment		650	-
(Reinvestment)/drawdown in other investments		(1,030,000)	350,000
Net cash (used in)/generated from investing activities		(1,010,995)	120,185
Net increase/(decrease) in cash and cash equivalents		114,933	(116,364)
Cash and cash equivalents at 1 January		247,786	364,150
Cash and cash equivalents at 31 December	7	362,719	247,786

The notes form an integral part of these financial statements.

STATEMENT OF CASH FLOWS

FOR THE YEAR ENDED 31 DECEMBER 2016

(i) Acquisition of non-current assets

During the year, the Commission acquired non-current assets in the following manner:

	2016 RM'000	2015 RM'000
Property, plant and equipment		
Satisfied by cash payments	58,168	312,237
Payable to suppliers	31,781	27,774
	89,949	340,011

The notes form an integral part of these financial statements.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

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 13 November 2017.

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.

(a) 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.

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.

(i) Adoption of Amendments and Annual Improvements to Standards

The accounting policies adopted are consistent with those of previous financial year, except for the adoption of the following pronouncements:

- *MFRS 14 Regulatory Deferral Accounts*
- *Amendments to MFRS 11 Joint Arrangements - Accounting for Acquisitions of Interests in Joint Operations*
- *Amendments to MFRS 101 Presentation of Financial Statements - Disclosure Initiatives*
- *Amendments to MFRS 127 Consolidated and Separate - Financial Statements Equity Method in Separate Financial Statements*
- *Amendments to MFRS 116 Property, Plant and Equipment and MFRS 138 Intangible Assets - Clarification of Acceptable Methods of Depreciation and Amortisation*
- *Amendments to MFRS 116 Property, Plant and Equipment and MFRS 141 Agriculture - Bearer Plants*
- *Amendments to MFRS 10 Consolidated Financial Statements, MFRS 12 Disclosure of Interests in other Entities and MFRS 128 Investments in Associates and Joint Ventures - Investment Entities: Applying the Consolidation Exception*
- *Annual Improvements to MFRSs 2012 - 2014 Cycle*

The adoption of the above pronouncements did not have significant impact on the financial statements of the Commission.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

2. Summary of significant accounting policies (cont'd.)

(a) Basis of preparation (cont'd.)

(ii) Standards issued but not yet effective

At the date of authorisation of the financial statements, the following Standards, Amendments to Standards were issued but not yet effective and have not been adopted by the Commission.

Description	Effective for financial periods beginning on or after
Amendments to MFRS 107 Statement of Cash Flows - <i>Disclosure Initiatives</i>	1 January 2017
Amendments to MFRS 112 Income Taxes - <i>Recognition of Tax Assets for Unrealised Losses</i>	1 January 2017
Amendments to MFRS 12 (Annual Improvements to MFRS Standards 2014-2016 Cycle)	1 January 2017
Amendments to MFRS 1 and MFRS 128 (Annual Improvements to MFRS Standards 2014-2016 Cycle)	1 January 2018
MFRS 2 Share-based Payment - <i>Classification and Measurement of share-Based Payment Transactions</i>	1 January 2018
MFRS 9 <i>Financial Instruments</i>	1 January 2018
Applying MFRS 9 Financial Instruments with MFRS 4 <i>Insurance Contracts</i> (<i>Amendments to MFRS 4</i>)	1 January 2018
MFRS 15 <i>Revenue from Contracts with Customers</i>	1 January 2018
Amendments to MFRS 140 - Transfer of Investment Property	1 January 2018
IC Int. 22 <i>Foreign Currency Transactions and Advance Consideration</i>	1 January 2018
MFRS 16 <i>Leases</i>	1 January 2019
Amendments to MFRS 10 and MFRS 128 - <i>Sale or Contribution of Assets between an Investor and its Associate or Joint Venture</i>	Deferred

The Commission will adopt above pronouncements when they become effective in the respective financial periods. The Commission does not expect any material impact to the financial statements on the above pronouncements other than those described below, for which the effects are still being assessed:

(a) MFRS 15 Revenue from Contracts with Customers

MFRS 15 *Revenue from Contracts with Customers* was issued in September 2014 and established a new five-step model which will apply to recognition of revenue arising from contracts with customers. Under this Standard, revenue is recognised at an amount that reflects the consideration to which an entity expects to be entitled in exchange for transferring goods or services to a customer. The principle of this Standard is to provide a more structured approach to measuring and recognising revenue.

This Standard is applicable to all entities and will supersede all current revenue recognition requirements under MFRS. Either a full or modified retrospective application is required for annual periods beginning on or after 1 January 2018 with early adoption permitted.

The Commission is currently assessing the financial impact that may arise from the adoption of MFRS 15.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

2. Summary of significant accounting policies (cont'd.)

(a) Basis of preparation (cont'd.)

(ii) Standards issued but not yet effective (cont'd.)

(b) MFRS 9 *Financial Instruments*

In November 2014, the MASB issued the final version of MFRS 9 *Financial Instruments* which reflects all phases of the financial instruments projects replacing MFRS 139 *Financial Instruments: Recognition and Measurement* ("MFRS 139") and all previous version of MFRS 9. This Standard introduces new requirements for classification and measurement, impairment, and hedge accounting of financial instruments. The adoption of this Standard will have an effect on the classification and measurement of the Commission's financial assets, but no impact on the classification and measurement of the Commission's financial liabilities.

MFRS 9 *Financial Instruments* also requires impairment assessments to be based on an expected loss model, replacing the MFRS 139 incurred loss model. Finally, MFRS 9 *Financial Instruments* aligns hedge accounting more closely with risk management, establishes a more principle-based approach to hedge accounting and addresses inconsistencies and weaknesses in the previous model.

This Standard will come into effect on or after 1 January 2018 with early adoption permitted. Retrospective application is required, but comparative information is not compulsory.

The Commission is currently assessing the financial impact that may arise from the adoption of MFRS 9.

(c) MFRS 16 *Leases*

MFRS 16 will replace MFRS 117 *Leases*, IC Interpretation 4 *Determining whether an Arrangement contains a Lease*, IC Interpretation 115 *Operating Lease-Incentives* and IC Interpretation 127 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease*. MFRS 16 sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to account for all leases under a single on-balance sheet model similar to the accounting for finance leases under MFRS 117.

At the commencement date of a lease, a lessee will recognise a liability to make lease payments and an asset representing the right to use the underlying asset during the lease term. Lessees will be required to recognise interest expense on the lease liability and the depreciation expense on the right-of-use asset.

Lessor accounting under MFRS 16 is substantially the same as the accounting under MFRS 117. Lessors will continue to classify all leases using the same classification principle as in MFRS 117 and distinguish between two types of leases: operating and finance leases.

The Commission is currently assessing the financial impact that may arise from the adoption of MFRS 16.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

2. Summary of significant accounting policies (cont'd.)

(b) Financial assets

Financial assets 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.

When financial assets are recognised initially, they are measured at fair value, plus, in the case of financial assets not at fair value through profit or loss, directly attributable transaction costs.

The Commission determines the classification of their financial assets at initial recognition, and the categories include financial assets at fair value through profit or loss, loans and receivables, held-to-maturity investments and available-for-sale financial assets.

The Commission categorise its financial assets as follows:

Loans and receivables

Financial assets with fixed or determinable payments that are not quoted in an active market are classified as loans and receivables.

Subsequent to initial recognition, loans and receivables are measured at amortised cost using the effective interest method. Gains and losses are recognised in profit or loss when the loans and receivables are derecognised or impaired, and through the amortisation process.

Loans and receivables are classified as current assets, except for those having maturity dates later than 12 months after the reporting date which are classified as non-current.

A financial asset is derecognised where the contractual right to receive cash flows from the asset has expired. On derecognition of a financial asset in its entirety, the difference between the carrying amount and the sum of the consideration received and any cumulative gain or loss that had been recognised in other comprehensive income is recognised in profit or loss.

Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the period generally established by regulation or convention in the marketplace concerned. All regular way purchases and sales of financial assets are recognised or derecognised on the trade date i.e. the date that the Commission commits to purchase or sell the asset.

(c) Financial liabilities

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. Financial liabilities are classified as either financial liabilities at fair value through profit or loss or other financial liabilities.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

2. Summary of significant accounting policies (cont'd.)

(c) Financial liabilities (cont'd.)

The Commission categorise the financial liabilities as follows:

Other financial liabilities

The Commission's other financial liabilities include trade and other payables and loans and borrowings.

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

Loans and borrowings, if any, are recognised initially at fair value, net of transaction costs incurred, and subsequently measured at amortised cost using the effective interest method. Borrowings are classified as current liabilities unless the Commission has an unconditional right to defer settlement of the liability for at least 12 months after the reporting date.

For other financial liabilities, gains and losses are recognised in statement of income and expenditure when the liabilities are derecognised, and through the amortisation process.

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 the statement of income and expenditure.

(d) 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 criterias for a provision are met and is depreciated over the lease term.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

2. Summary of significant accounting policies (cont'd.)

(d) Property, plant and equipment (cont'd.)

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
• Renovation	3 years
• Buildings	50 years

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.

(e) Investment property

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 property is 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.

(f) Operating lease

A lease is recognised as a finance lease if it transfers substantially to the Commission all the risks and rewards incident to ownership. All other leases are classified as operating leases.

Operating lease payments are recognised as an expense in the profit or loss on a straight-line basis over the term of the relevant lease.

(g) 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.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

2. Summary of significant accounting policies (cont'd.)

(h) Impairment of financial assets

The Commission assesses at each reporting date whether there is any objective evidence that a financial asset is impaired.

Trade and other receivables and other financial assets carried at amortised cost

To determine whether there is objective evidence that an impairment loss on financial assets has been incurred, the Commission considers factors such as the probability of insolvency or significant financial difficulties of the debtor and default or significant delay in payments. For certain categories of financial assets, such as fees receivables, assets that are assessed not to be impaired individually are subsequently assessed for impairment on a collective basis based on similar risk characteristics. Objective evidence of impairment for a portfolio of receivables could include the Commission's past experience of collecting payments, an increase in the number of delayed payments in the portfolio past the average credit period and observable changes in national or local economic conditions that correlate with default on receivables.

If any such evidence exists, the amount of impairment loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the financial asset's original effective interest rate. The impairment loss is recognised in profit or loss.

The carrying amount of the financial asset is reduced by the impairment loss directly for all financial assets with the exception of trade receivables, where the carrying amount is reduced through the use of an allowance account. When a trade receivable becomes uncollectible, it is written off against the allowance account.

If in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognised, the previously recognised impairment loss is reversed to the extent that the carrying amount of the asset does not exceed its amortised cost at the reversal date. The amount of reversal is recognised in profit or loss.

(i) 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").

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

2. Summary of significant accounting policies (cont'd.)

(j) Fees and other income

(i) Operating license fees

Operating license fees are recognised on the following basis:-

- (a) a minimum RM50,000 or a maximum license fees of 0.50% of Gross Annual Turnover of the licensee is recognised on an accrual basis upon the anniversary of the license and annually thereafter.
- (b) the difference between the minimum and the maximum refers to maximum rebates of 0.35% given to licensees only upon meeting the criteria set and approved by the Commission.

(ii) Spectrum fees

Spectrum fees consist of apparatus and spectrum assignment fees. Renewal notifications are sent to the assignment holders before the expiry of the assignment. Upon receiving the notification, the assignment holders are required to make a fresh application for new assignment. Spectrum fees are recognised on an accrual basis over the license periods granted.

(iii) Interest income

Interest income is recognised as it accrues using the effective interest method in the statement of income and expenditure.

(k) 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) of the Income Tax, 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.

(l) Fair value measurement

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.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

2. Summary of significant accounting policies (cont'd.)

(l) Fair value measurement (cont'd.)

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.

Financial assets are recognised in the statements of financial position when, and only when, the Commission becomes a party to the contractual provisions of the financial instruments.

When financial assets are recognised initially, they are measured at fair value, plus, in the case of financial assets not at fair value through profit or loss, directly attributable transaction costs.

(m) 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.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

2. Summary of significant accounting policies (cont'd.)

(n) 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.

(o) Current and non-current classification

The Commission present 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.

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.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

2. Summary of significant accounting policies (cont'd.)

(p) Prior year adjustment

The Commission records the rebate entitlement expenses in the year payments are made to the licensees due to lack of information on the licensees' financial information at each reporting date. As such, no accruals were made at each reporting period previously. During the year, the Commission has revisited its processes in estimating rebate entitlement expenses at each reporting period and accrued for it the year it is incurred.

In accordance with MFRS 108 Accounting Policies, Changes in Accounting Estimates and Errors, the Commission considered this a change in accounting policy in respect of its rebate entitlement and applied it retrospectively.

The impact arising from the above adjustment is as follows:

	As previously reported RM'000	2015 Adjustment RM'000	As restated RM'000
Statement of financial position			
Accumulated funds	1,902,361	(11,969)	1,890,392
Other payables	320,449	11,969	332,418
Statement of income and expenditure and recognised gains and losses			
Rebate entitlement expenses	17,245	(5,276)	11,969
Deficit after tax representing total recognised losses	(355,977)	5,276	(350,701)
Statement of cash flows			
Changes in working capital:			
Other payables and accrued expenses	10,516	(5,276)	5,240
1 January 2015			
	As previously reported RM'000	Adjustment RM'000	As restated RM'000
Statement of financial position			
Accumulated funds	2,258,338	(17,245)	2,241,093
Other payables	282,159	17,245	299,404

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

2. Summary of significant accounting policies (cont'd.)

(q) 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.

Impairment of loans and receivables

The Commission assesses at each reporting date whether there is any objective evidence that a receivable is impaired. To determine whether there is objective evidence of impairment, the Commission considers factors such as the probability of insolvency or significant financial difficulties of the debtor and default or significant reduction in collection rates.

When there is objective evidence of impairment, the amount and timing of future cash flows are estimated based on historical loss experience for assets with similar credit risk characteristics.

Useful life of property, plant and equipment and investment properties

The Commission estimates the useful lives of property, plant and equipment and investment properties based on the period over which the assets are expected to be available for use. The estimated useful lives of property, plant and equipment and investment properties 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.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

3. Property, plant and equipment

	Office and communication equipment RM'000	Computer equipment RM'000	Furniture and fittings RM'000	Motor vehicles RM'000	Freehold land RM'000	Buildings RM'000	Renovation RM'000	Capital work-in progress RM'000	Total RM'000
Cost									
At 1 January 2015	10,114	191,383	4,494	10,473	10,873	39,838	-	542,690	809,865
Additions	1,067	1,627	288	1,667	-	8,441	-	326,921	340,011
Disposals/Write off	-	(4,545)	-	(154)	-	-	-	-	(4,699)
Reclassification	7,778	22,994	4,206	-	-	503,434	-	(538,412)	-
Transfer to investment property	-	-	-	-	-	(291,484)	-	-	(291,484)
At 31 December 2015	18,959	211,459	8,988	11,986	10,873	260,229	-	331,199	853,693
Accumulated depreciation									
At 1 January 2015	7,262	177,485	3,937	7,312	-	7,695	-	-	203,691
Charge for the year	1,670	9,566	434	1,476	-	10,747	-	-	23,893
Disposals/Write off	-	(4,545)	-	(154)	-	-	-	-	(4,699)
Transfer to investment property	-	-	-	-	-	(6,073)	-	-	(6,073)
At 31 December 2015	8,932	182,506	4,371	8,634	-	12,369	-	-	216,812
Net book value as at 31 December 2015	10,027	28,953	4,617	3,352	10,873	247,860	-	331,199	636,881

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

3. Property, plant and equipment (cont'd.)

	Office and communication equipment RM'000	Computer equipment RM'000	Furniture and fittings RM'000	Motor vehicles RM'000	Freehold land RM'000	Buildings RM'000	Renovation RM'000	Capital work-in progress RM'000	Total RM'000
Cost									
At 1 January 2016	18,959	211,459	8,988	11,986	10,873	260,229	-	331,199	853,693
Additions	539	6,063	47	1,779	-	-	5,781	75,740	89,949
Disposals/Write off	-	-	(2,466)	(1,670)	-	-	-	-	(4,136)
Reclassification	1,175	10,638	866	-	-	180,405	-	(193,084)	-
Transfer to investment property	-	-	-	-	-	(180,405)	-	-	(180,405)
At 31 December 2016	20,673	228,160	7,435	12,095	10,873	260,229	5,781	213,855	759,101
Accumulated depreciation									
At 1 January 2016	8,932	182,506	4,371	8,634	-	12,369	-	-	216,812
Charge for the year	2,082	15,456	834	1,324	-	17,003	177	-	36,876
Disposals/Write off	-	-	(2,449)	(1,508)	-	-	-	-	(3,957)
Transfer to investment property	-	-	-	-	-	(11,797)	-	-	(11,797)
At 31 December 2016	11,014	197,962	2,756	8,450	-	17,575	177	-	237,934
Net book value as at 31 December 2016	9,659	30,198	4,679	3,645	10,873	242,654	5,604	213,855	521,167

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

4. Investment properties

	Note	2016 RM'000	2015 RM'000
Cost			
At 1 January		291,484	-
Addition		203	-
Reclassified from property, plant and equipment	3	180,405	291,484
At 31 December		472,092	291,484
Accumulated depreciation			
At 1 January		6,073	-
Reclassified from property, plant and equipment	3	11,797	6,073
At 31 December		17,870	6,073
Accumulated impairment loss			
At 1 January		-	-
Charge for the year		98,222	-
At 31 December		98,222	-
Carrying amounts			
At 31 December		356,000	285,411
Fair value of investment properties		356,000	312,078

In the current financial year, in accordance to MFRS 140, Investment Property, the Commission has reclassified a commercial property that is intended to be held for rental income and capital appreciation purposes, from property, plant and equipment to investment property.

The following is recognised in the statement of income and expenditure in respect of the investment property:

	2016 RM'000	2015 RM'000
Rental income	15,726	8,723
Rental related expenditure	(10,144)	(4,596)

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

4. Investment properties (cont'd.)

4.1 Fair value information

Fair value of investment properties are categorised as follows:

	Level 3	
	2016 RM'000	2015 RM'000
Land and building	356,000	312,078

The fair value of the investment properties were valued by an independent valuer, who holds recognised qualifications and has relevant experience in valuing these type of 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 are adjusted from its base value derived from existing rental agreements and historical information maintained by the Commission at rates ranging between +4% and +28%. The values are then discounted at a discount rate ranging between 6% to 6.25% 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 property.

4.2 Impairment loss of investment properties

During the year, the Commission performed an impairment assessment on its investment properties using the fair values derived by the independent valuers, as discussed above. The Commission noted that the carrying amounts of its investment properties are higher than the fair value, indicating potential impairment loss. The Commission considers the fair value derived by the independent valuer as the recoverable amount of the investment properties as the fair values are derived using data reflective of the current market condition.

As a result, the Commission recognised an impairment loss of RM98,222,000 (2015: RM Nil) in the statement of income and expenditure arising from the impairment review.

5. Other investments

	2016 RM'000	2015 RM'000
Deposits placed with licensed banks	2,630,000	1,600,000

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	
	2016 %	2015 %	2016 days	2015 days
Licensed banks	3.92	4.21	246	344

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

6. Fees and other receivables

	2016 RM'000	2015 RM'000
Fees receivables		
Fees receivables	8,296	10,694
Less: Individual impairment allowance	(1,808)	(2,652)
	6,488	8,042
Other receivables		
Interest receivable	20,176	30,905
Deposits	1,866	2,191
Staff loans	555	503
Advances to staff	51	223
Others	8,184	6,797
	30,832	40,619
Fees and other receivables	37,320	48,661

Ageing analysis:

The ageing of fees receivables as at the end of the reporting period was as follows:

	2016 RM'000	2015 RM'000
Neither past due nor impaired	5,268	7,273
Past due not impaired	1,220	769
Past due and impaired	1,808	2,652
	8,296	10,694

Fees receivables that are neither past due nor impaired

Fees receivables that are neither past due nor impaired are creditworthy licensees with good payment records.

Fees receivables that are past due but not impaired

Fees receivables amounting to RM1,220,000 (2015: RM769,000) that are past due but not impaired as there is no concern over the credit worthiness of these receivables and the recoverability of these debts.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

6. Fees and other receivables (cont'd.)

Fees receivables that past due and impaired

Fees receivables that are impaired at the reporting date and the movement of the allowance accounts used to record the impairment are as follows:

	2016 RM'000	2015 RM'000
<u>Individually impaired</u>		
Nominal amounts	1,808	2,652
Less: Allowance for impairment	(1,808)	(2,652)
	-	-

	2016 RM'000	2015 RM'000
At 1 January	2,652	1,808
Charge for the year	400	844
Reversal	(83)	-
Written off	(1,161)	-
At 31 December	1,808	2,652

Fees receivables that are determined to be individually impaired at the reporting date relates to licensees that have defaulted in payment. These are not secured by any collateral or credit enhancements. There are no further factors that warrants the consideration of additional impairment on a collective basis.

7. Cash and cash equivalents

	2016 RM'000	2015 RM'000
Cash and bank balances	77,889	36,766
Deposits placed with licensed banks	284,830	211,020
	362,719	247,786
Fees and other receivables	37,320	48,661
Other investments	2,630,000	1,600,000
Total loans and receivables	3,030,039	1,896,447

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

7. Cash and cash equivalents (cont'd.)

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	
	2016 %	2015 %	2016 days	2015 days
Licensed banks	3.04	3.29	14	8

8. Accumulated funds

	2016 RM'000	2015 Restated RM'000	2014 Restated RM'000
Initial fund	60,000	60,000	60,000
Accumulated surplus brought forward	1,830,392	2,181,093	1,865,832
Payments made pursuant to Section 38(3) of the Malaysian Communications and Multimedia Commission Act 1998 (Act 589)	(1,000,000)	-	-
(Deficit)/surplus after tax	(84,822)	(350,701)	315,261
	805,570	1,890,392	2,241,093

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 2016

9. Deferred income

	2016 RM'000	2015 RM'000
Current		
Spectrum fees		
3G spectrum assignment fees	198,031	220,546
Apparatus assignment fees	186,245	301,549
Operating licence fees		
Class licence fees	77	195
Spectrum fees		
SA 900 Fees	50,443	-
SA 1800 Fees	56,436	-
	491,232	522,290
Non-current		
Spectrum fees		
3G spectrum assignment fees	70,489	71,247
Apparatus assignment fees	664	591
Spectrum Assignment fees		
SA 900 Fees	1,068,734	-
SA 1800 Fees	1,121,388	-
	2,261,275	71,838
Total deferred income	2,752,507	594,128

Deferred income relates to the amount of unearned income from payments made by licensees that will be recognised in future financial periods.

10. Other payables

	2016 RM'000	2015 RM'000 Restated	2014 RM'000 Restated
Sundry payables	50,926	19,265	34,002
Accrued expenses	296,689	313,153	265,402
Total financial liabilities at amortised cost	347,615	332,418	299,404

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

11. Operating license fees

This relates to license fees such as individual license fee, class license fee and postal fee charged by the Commission to the licensees such as network services provider, network facilities provider and applications service provider.

12. Spectrum fees

This relates to spectrum assignment fees and apparatus assignment fees charged by the Commission to users to use one or more specified frequency bands to operate network facilities under specified conditions.

13. Other income

	2016 RM'000	2015 RM'000
License application fees	4,667	3,062
Events sponsorship	3,000	6,000
Sundry income	373	1,485
	8,040	10,547

14. Employee benefit expenses

	2016 RM'000	2015 RM'000
Wages, salaries and allowances	69,699	60,196
Social security costs and employee insurance	3,269	2,803
Bonus	13,136	12,968
Defined contributions plan	12,536	11,888
Other staff related expenses	7,754	6,398
	106,394	94,253

Included in the employee benefit expenses are the allowances, expenses and ex-gratia of the Commission's Members amounting to RM833,382 (2015: RM453,500).

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

15. Tax expense

	2016 RM'000	2015 Restated RM'000
Current tax expense		
Current year	18,507	21,381
Prior year	(990)	(164)
Total income tax expense	17,517	21,217

Domestic income tax is calculated at the Malaysian statutory tax rate of 24% (2015: 25%) of the estimated assessable deficit for the year.

A reconciliation of income tax expense applicable to 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:

	2016 RM'000	2015 Restated RM'000
Deficit before tax	(67,305)	(329,484)
Income tax calculated using Malaysian tax rate of 24% (2015: 25%)	(16,153)	(82,371)
Expenses not deductible for tax purposes	213,049	264,501
Income not subject to tax	(178,389)	(160,749)
Overprovision of income tax expense in prior years	(990)	(164)
	17,517	21,217

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.

16. Audit fees

The Commission's audit fee of RM125,000 (2015: RM100,000) 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 RM55,000 (2015: RM50,000), which is recognised in the said statement.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

17. Capital commitment

	2016 RM'000	2015 RM'000
Property, plant and equipment		
Authorised but not contracted for	137,844	137,554
Contracted but not provided for	64,279	65,326
	202,123	202,880
Operating lease		
Contracted but not provided for	389	1,073

18. Financial risk management objectives and policies

The Commission is exposed to financial risks arising from their 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 Members of the Commission review and agrees 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

Credit risk is the risk of a financial loss to the Commission if a licensee or counterparty to a financial instrument fails to meet its contractual obligations. The Commission's exposure to credit risk arises principally from its fees and other receivables and deposits placed with licensed banks.

Fees and other receivables

Risk management objectives, policies and processes for managing the risk

Management has a credit policy in place and the exposure to credit risk is monitored on an ongoing basis.

Exposure to credit risk, credit quality and collateral

As at the end of the reporting period, the maximum exposure to credit risk arising from fees and other receivables is represented by the carrying amounts in the statement of financial position.

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.

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

18. Financial risk management objectives and policies (cont'd.)

(a) Credit risk (cont'd.)

Deposits placed with licensed banks

Risk management objectives, policies and processes for managing the risk

Deposits are allowed to be placed only with licensed banks or financial institutions.

Exposure to credit risk, credit quality and collateral

As at the end of the reporting period, the Commission has only placed deposits with domestic licensed banks. The maximum exposure to credit risk is represented by the carrying amounts in the statements of financial position. The Commission has no significant concentration of credit risk other than the placements with licensed banks.

(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 fixed deposits placements. 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:

	2016 RM'000	2015 RM'000
Fixed rate instruments		
Financial assets		
Deposits with licensed banks	2,914,830	1,811,020

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

18. Financial risk management objectives and policies (cont'd.)

(c) Interest rate risk (cont'd.)

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. Therefore, a change in interest rates at the end of the reporting period would not 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.

19. 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 Members of the Commission, 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.

Significant related party transactions

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:

	2016 RM'000	2015 RM'000
Payments made to Government related parties pursuant to Section 39(2) Malaysian Communications and Multimedia Commission Act 1998 (Act 589)	159,131	550,000
Payments made to Consolidated Fund pursuant to Section 38(3) Malaysian Communications and Multimedia Commission Act 1998 (Act 589)	1,000,000	-
Key management personnel's compensation	5,411	4,329

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2016

19. Related parties (cont'd.)

(a) Key management personnel compensation

	2016 RM'000	2015 RM'000
Wages, salaries and allowances	3,734	3,070
Bonus	963	700
Defined contributions plan	714	559
	5,411	4,329

20. 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 budgetting its funding needs ahead and adjust its expenditures as required. The Commission continuously monitor its budget against actual results and identify efficiencies in its operations.

No changes were made in the objectives, policies or processes during the years ended 31 December 2016 and 2015.

21. Legal proceedings

The Commission was served with a letter of demand dated 16 December 2016 ("Letter of Demand") from a vendor, demanding the Commission to provide a list of sites for installation of devices and amounts due for the 8th milestone amounting to RM8,314,234.04, in accordance with the Agreement dated 14 May 2013 entered into between the Commission and the vendor ("Agreement").

The total contract sum under the Agreement is RM151,500,000.00. As at the date of the Letter of Demand, the Commission has made payment of RM90,900,000.00 to the vendor for the works done. The outstanding amount based on the Agreement was RM60,600,000.00.

As the vendor was found to have not fulfilled certain terms and conditions in the Agreement, the Commission did not make the payment as demanded in the Letter of Demand. However, the vendor alleged that their non-fulfillment was because the Commission was not able to provide the list of sites for them to install the devices.

Noting the lack of documentary evidence to support the Commission's case, the Commission was duly advised by the solicitors to negotiate a settlement. Pursuant to the negotiation, both parties agreed to settle the matter and entered into a settlement agreement dated 3 July 2017. Pursuant to the said settlement agreement, the Commission was required to pay RM25,000,000.00 to the vendor as the full and final settlement amount.

22. Comparatives

The comparatives were audited by a firm of auditors other than Ernst & Young.

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