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Chairman's Keynote Address on "Future Connectivity & How the Government's Connectivity Initiatives can Change the industry landscape in Malaysia"

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Fellow Industry Champions,

Distinguished Guests,

And Members of the Media,

Assalammu'alaikum wbt, a very good morning, Konnichiwa to our colleagues from NTT and Japan

First of all, I would like to thank Allo Technology Sdn. Bhd. for inviting me to speak about **future connectivity** in Malaysia – specifically, how connectivity initiatives have the **power the change the industrial landscape of the country.**

So before I share the Commission's thoughts on future connectivity and what we believe is in store for us in the next few years, let me bring you back to the recent past for some context.

You may remember that "convergence" was a catchword in the late 1990s and early 2000. Regulators worldwide, as well as in Malaysia were trying to understand the implications that technological advances have on their respective jurisdictions, and what it meant going forward.

For example, the traditional boundaries between telecommunications (under Jabatan Telekom Malaysia at the time) and broadcasting (under the Ministry of Information), started to become unclear.

The burgeoning Internet, which was only accessible from a dial-up connection, was also starting to change consumer habits. People prefer to communicate in an instant, through emails instead of sending letters and documents. In other words, change was happening in a big way and that change was brought about, by technological advancement where products and services were being consumed differently.

Recognising that the public sector's conventional regulatory regimes were no longer equipped to handle such rapid developments in broadcasting, TV, radio, telecommunications, the Internet, along with all the other opportunities and threats of the cyber world, it was determined that what Malaysia needed

(pause)

….was the amalgamation of these separate authorities under one regulatory authority in the form of the **Malaysian Communications and Multimedia Commission**, arising from a new, converged regulatory framework – the Communications and Multimedia Act.

Needless to say, the early days was not easy for either the regulator or the industry. There have been many lessons learned along the way, but overall, I am happy to report that the sector has grown by leaps and bounds.

From 2000, total industry revenue grew from RM16.3 billion to **RM44 billion in 2018.** When I say industry, I mean communications & multimedia, in short C&M, which is the combination of telecommunications, broadcasting and postal sectors. Of the RM44 billion revenue in 2018, the telecommunications sector contributed 80% to total revenue, while 15% came from broadcasting and 5% from the postal sector.

This growth was mainly due to rise of technology and how information is being consumed, which enabled a myriad of new game-changing products and services to enter the market, reaching to consumers far and wide to the extent that some of these services have become a mainstay in our lives.

As for the market capitalisation, in 2018, the C&M industry constituted **8% or RM135.7 billion** of Bursa Malaysia's total market capitalisation of RM1.7 trillion.

Zooming into the telecommunications sub-sector, let me draw you a picture with regards to penetration rate. In 2004, the penetration rate for Internet dial-up service was a modest 12.2% compared to **121.1% of broadband penetration today**. Cellular penetration rate in 2004 was below 50%. Today, it is above **130%!**

To satisfy the hunger for communications services and applications, the number of service providers in the industry have also grown. From 2003 until the end of last year, the number of network facilities providers increased from 27 to 220, while network service providers grew from 29 to 183. There were 19 content application service providers in 2003; today, we have 56.

Overall, the Commission expects to see further growth and wider consumer choices in the immediate future. We are forecasting further expansion in broadband penetration rate over the next few years.

So what does all this number entail? The corollary to the continued improvement in digital connectivity in the country is none other, than economic development. The economic contribution of broadband for developing countries such as Malaysia, is **too important to ignore**. The International Telecommunications Union (ITU) found that a **1%** increase in mobile broadband penetration will result in a **0.15% increase in GDP**.

And according to the World Bank, a **10 percentage point** increase in fixed broadband penetration would increase GDP growth by 1.21% in developed economies and **1.38% in developing ones.**

(Pause)

Let me illustrate to all of you on why digital connectivity is indispensable to the country's economic growth, from another perspective. In October 2018, the Department of Statistics, announced that the contribution of ICT to the national economy was recorded at **RM247 billion which is roughly 18.3% in 2017.** The e-commerce value added contribution to the GDP continuously improved over a period of seven years to **RM85.8 billion in 2017** from RM37.7 billion in 2010, with an average annual growth rate of 12.5 per cent.

And consider this, SMEs form the backbone of the Malaysian economy, representing more than **95% of business establishments** in the country. They are responsible for an estimated **37.1% of the country's GDP; 66% of the country's employment**; and nearly **17.3% of Malaysia's exports.**

It is found, that many Malaysian SMEs have merely added computers to their operations to modernise their business. They utilise computers and the Internet to digitalise the business and improve connectivity for their operations. But many don't move beyond basic computing. About **71%** of SMEs engaged in social media for product communication and marketing and only **44%** were involved in e-commerce activities. Even fewer companies, have leveraged software solutions to improve their business processes.

So imagine, with strong digital connectivity, what will this do to the country's exports, employment, and to the national economy?

(Pause)

Yang Berhormat Tuan Gobind proved in his first four months in office, "Double the speed, half the price" is **Attainable**. Not **Impossible**. The time has come for our **Moonshot**!

To spur the next phase of the country's growth, there is a need for strategic collaborations between the government, service providers and stakeholders in infrastructure, as well as regulatory authorities such as MCMC.

Connectivity is a fundamental platform for growth and innovation in a host of fields including manufacturing, agriculture, transportation, healthcare, education, and finance.

As the Fourth Industrial Revolution dawns upon us – and with it brings unrelenting digital disruption and path-breaking change, we must ensure the necessary infrastructure are in place to take advantage of its opportunities. Technologies like artificial intelligence, internet of things, machine learning, and virtual reality will be at the forefront. Consumers will be using these technologies in every facet of life from products and services, to employment and trade, without even realising it.

Through our action plans, the Commission has always and will continue to bring about development of the industry and support the digital economy for the long-term benefit of consumers.

The first Framework for Industry Development, "the FID", was a 5-year plan from 2002 to 2006 which served as a guide to facilitate strategic planning and investment for the industry. This plan was replaced by the MyICMS 886 (short for Malaysian Information Communication and Multimedia Services), which introduced 8 new services, and promoted 8 essential infrastructures to generate growth in 6 key areas.

Recognising the need for a strategy to enable broadband services, the National Broadband Initiative was introduced in 2007. Broadband was also one of the main pillars of the MyICMS 886. The plan introduced 5 initiatives to roll out high speed broadband services that addressed both supply and demand in the ecosystem. This includes setting up of Internet Centers, distribution of devices, and expansion of cellular coverage nationwide.

This is where we can see the real impact of the Commission's efforts at promoting digital inclusivity particularly for communities living in the rural and remote areas.

At the micro level, our Internet Centers have become a necessary tool for the Rakyat to learn and enjoy the benefits of connectivity. In total, we have **867 Internet Centers**, and together, these centers have more than half a million members nationwide. We provided numerous training programs to promote digital literacy such as website building and entrepreneurship. I am proud to note that these Internet Centers have produced a lot of entrepreneurs who have managed to improve their businesses.

The Internet Centres also function as a banking, e-commerce and fulfilment centres, and have become catalysts for change in the rural communities. In support of the digital economy and e-commerce, we have collaborated with Bank Simpanan Nasional and appointed some of these Internet Centres as authorised BSN agents. As a result, the Rakyat in these areas not only can become digitally savvy, but also financially literate from having access to all of the services that we normally see in metropolitans and cities across the country.

There are also strategic partnerships with Pos Malaysia and GDex for the Internet Centres to function as courier agents where they provide value added services such as accepting courier deliveries, sell prepaid boxes, etc.

One of the main benefits of digital connectivity and high speed broadband is the ability to bring healthcare to remote citizens. Through our own initiative, we have been conducting health pilots at some of our Internet Centres since 2013 and subsequently embarked on a second e-health pilot in collaboration with the Ministry of Health. Today, our Internet Centres function as a first screening point for basic health indicators such as blood pressure, glucose, and BMI.

Through this initiative, the Commission together with the Ministry aim to expose rural Malaysians on the importance of a healthy life practices, ultimately promoting patient independence, reducing costs and increasing efficiency of the healthcare system. You may be aware that according to a report in 2018, **46% of Malaysia's population** are considered **overweight or obese** – resulting in the inglorious distinction that we are among the fattest in Asia! That being the case, I am glad to share that within **six months of this pilot**, **3,361 persons were screened**. Out of which, **87.7%** were referred to clinics for further check-up!

I mentioned that these are impact at the micro level. At the same time, we are taking a customised approach in our engagements with communities that have specific needs. To-date, we have 5 districts where we have launched the Smart Community initiative. They are Kemaman, Kota Belud, Lundu, Putrajaya, and Langkawi, and each one is **different**.

In Kemaman, we have a next-generation Internet Center which houses an integrated flood management system. The flood management system is

equipped CCTV reconnaissance as well as sensors at rivers which measure the probability of floods, that then act as an early flood warning device.

In Kota Belud, Sabah, we have something similar where water sensors are installed at a few rivers that have been identified as flood hotspots. There is also an app that the residents can download that will give information on weather and water levels at the rivers.

(Pause)

In guiding the industry through the various development plans especially on how we could leverage on the digital economy, the Commission relies on many regulatory instruments including the Access List and the Mandatory Standard on Access Pricing or MSAP, to ensure licensees play by the rules.

The latest MSAP was reviewed and implemented in June 2018 and I am happy to note that the impact was immediate.

Firstly, the new, regulated wholesale prices for high-speed broadband services are lower than commercially agreed prices. This subsequently resulted in lower retail prices for high-speed broadband services.

On average, retail prices for high speed broadband services **declined by about 49%**. We also note improved broadband speed, and about **71% of subscribers are subscribing to 100Mbps and above**. The number of fixed broadband subscriptions with download speeds of more than 100Mbps have risen tremendously from **150,000 in 2017 to 1.2 million subscribers in 2018**, and I am happy to share that as at **today**, Speedtest Global Index by Ookla reported that average fixed broadband download speeds in Malaysia stands at **70.18Mbps** as compared to **22.26Mbps a**

**year ago**, and Malaysia is now ranked **28th in the world** as compared with 56th in 2017.

Thus, to reiterate, the Commission has and will continue to bring about development to the industry and support the digital economy for the long-term benefit of consumers.

Our latest action plan is the **National Fiberisation and Connectivity Plan or NFCP**. It is a rolling 5-year plan that will address issues that hinder the widespread availability of high quality and affordable digital connectivity.

Some of these hindrances are the industry ourselves. We are told about the non-existence of business cases for 5G in Malaysia … well, let me transport you, my friends, to Shropshire. A county in the West Midlands of England, where we visited the **Agricultural Engineering Precision Innovation Centre within the public university of Harper Adams** just this past Friday.

Suffice to conclude – 56% of UK land are rural. The Hands Free Hectare project there is the first ever plot of agricultural land being grown **without** any humans touching plants or soil – tractors and drones connected to a 5G network, operate autonomously from the cloud using sensors laced with AI and ML etc. This agricultural **re**-revolution is hoped to result in new 5G networks being built in rural England. With mobile coverage taking second stage as a **by product**! With the United Nations forecasting the world's population to hit 9.7 billion by 2050, Governments are hard at work to ensure the agricultural sector will produce **better yields than ever**.

Back to the NFCP, we hope to provide clarity in terms of strategic directions for the digital economy & adoption of future technology. It will support Malaysia's needs moving forward and harness opportunities offered by new services and technologies.

What we expect to achieve through implementation of this Plan are:

- ✓ Wider coverage of services;
- ✓ Faster broadband speeds;
- ✓ More consumer choice; and
- ✓ For individuals, businesses and communities to effectively participate and leverage on opportunities afforded by the digital economy.

Let me share the 7 key targets under the NFCP. We want to achieve:

- Entry level fixed broadband package at 1% of GNI (2020).
- Gigabits availability in selected industrial areas by 2020 and to all state capitals by 2023
- 100% availability for premises in State Capitals & selected high impact areas with a minimum speed of 500 Mbps (2021)
- 20% availability for premises in sub-urban & rural areas with up to 500Mbps (2022)
- Fiber network to pass 70% of schools, hospitals, State libraries, police stations and post offices (2022)
- Average speeds of 30 Mbps in 98% of populated areas (2023)
- Improving mobile coverage along Pan Borneo highway upon completion

How do we get there?

The answer to that burning question is that we really need strategic collaborations between the different government ministries and agencies, sector regulators, the service providers, businesses, academia, civil society groups, and other stakeholders to firstly lay out the infrastructure. This will then enable next generation connectivity and services provisioning.

Digital convergence can also be taken across geographic boundaries. Some level of co-regulation would be beneficial at the regional level. Regional co-regulation among ASEAN countries on ensuring robust cyber security or having comparable regulatory treatment for digital content delivered over the Internet, are some examples.

Here in Malaysia, all of us will need to roll up our sleeves to resolve everyday problems and barriers that can hinder the NFCP targets. Specifically, this will involve the mundane but crucial tasks of having rights-of-way for infrastructure installation, availability of business financing particularly for the small and medium sized providers, optimising spectrum resources, and ensuring fair competition and access for all.

One of the initiatives under the NFCP that is already underway is the National 5G Taskforce. This is a multi-stakeholder taskforce, led by industry that was formed in November 2018. It is supported by 4 work groups to study and recommend to the Government a nationwide 5G implementation strategy to support the future needs of Malaysia's digital economy.

We also have a 5G testbed team that will explore the practical uses, technologies and modes of implementation of 5G in Putrajaya and Cyberjaya. We hope to learn and streamline potential policies, regulations and spectrum planning for future implementation of 5G in Malaysia. Some of the 5G use cases and verticals identified in the testbed are digital healthcare, agriculture, manufacturing, smart cities and smart transport.

In terms of the industry outlook, C&M revenue will be driven by digital services. For this, the entire ecosystem has to be ready. This includes having world class communications infrastructure (fibre, wireless, satellite etc.), that will support the enabling platform comprising Digital ID, open data, payment platforms, etc. The service and content portion of the

ecosystem sits on top as the interface for transactions, participation, value creation, acquisition of services, consumption of content, by end users. Underlying all this is the most crucial part of the ecosystem which is digital security that manages the risk, network resilience, and protection of data and services.

**With great connectivity, comes great responsibility**. Today our internet penetration stands at **87.5%** and we have one of the highest levels of mobile social media penetration in the world. Security has taken on such a multitude of facets that communications regulators and policy makers have to contend with the challenges of cybersecurity, fake news, cyber bullying and online harassment, to name a few. It is easier and cheaper than ever before for those who want to do us harm to access the tools, exploits and services they need to launch attacks. That is why cyber security must remain a top priority. I believe – as technological advancement such as 5G looms, speaking to our colleagues from the National Cyber Security Centre (NCSC) UK last week, there are three conditions that we should subscribe to, in order to safeguard ourselves from the increasing complexity of cyber security threats:

- **First**, we must have higher mandatory standards of cyber security across the entire telecommunications sector
- **Second**, telecommunications networks must be made more resilient.
- **Third**, there must be sustainable diversity in the supplier market. Should the supplier market consolidate to such an extent that there are only a tiny number of viable options, that will not make for good cyber security. Any company in an excessively dominant market position will not be incentivised to take cyber security seriously.

We need to be **agile and prescient** to anticipate the potential threats that may come as a result of increased connectivity, at the same time have the

**gumption** to deal with any threats that seek to halt or disrupt our digital future.

I would like to conclude by saying that the Commission's initiatives over the years have had a significant impact on the communications and multimedia industry from promoting ubiquitous national infrastructure, facilitating efficient allocation and monitoring of resources such as spectrum, ensuring fair competition, to maintaining standards among the service providers. All these toward the ultimate aim of providing long term benefits to the consumers.

We are also cognizant of the fact that many challenges lie ahead of us, as the industry, technology, applications and consumer demands are changing at breakneck speed. The speed of current breakthroughs have **no historical precedent**. Technology evolves at an **exponential** rate.

We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another. In its scale, scope, and complexity, the Fourth Industrial Revolution will be unlike anything humankind has experienced before. Thus how we respond must be integrated and comprehensive, involving all stakeholders.

Let me close my talk by reminding everyone that this is OUR journey; not just the Commission's journey, nor the service providers' journey but everyone's journey. Because at the end of the day, we are consumers of these digital services like AI smartphones, IOT homes, and autonomous cars. We all have a role to play whether as concerned citizens, parents, consumers or businesses.

Come on this journey with us and help steer Malaysia towards becoming a positive leader and productive catalyst of the digital economy. In the words of Shakespeare, "**Be not afraid of greatness**." Thank you.