



**ANNUAL
REPORT**

2017
2018

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MEMBERS OF AUTHORITY

STRUCTURE & PROFILES

APPOINTMENTS UNTIL 31 JANUARY 2018



Yang Mulia Haji Azhar bin Haji Ahmad was the AITI's Chairman from 1 February 2016 until 31 January 2018. He also held the post as Permanent Secretary at the Ministry of Communications since November 2015.



Yang Mulia Pengiran Haji Mohd Zain bin Pengiran Haji Abdul Razak was appointed a Member of Authority on 1 February 2016 to 31 January 2018. He is also AITI's Chief Executive.



Yang Mulia Hajah Tutiatty binti Haji Abdul Wahab was appointed as a Member of Authority on 15 March 2017 and served until 31 January 2018. She also holds the post of Deputy Permanent Secretary for IT, E-Government and Industry at the Prime Minister's Office.



Yang Mulia Dr Hajah May Fa'ezah binti Haji Ahmad Ariffin was appointed as a Member of Authority on 8 May 2017 and served until 31 January 2018. She also held the post of Deputy Permanent Secretary (Economy and Finance), at the Prime Minister's Office.



Yang Mulia Pengiran Hajah Siti Nirmala binti Pengiran Haji Mohammad was appointed as a Member of Authority on 1 February 2016. During her service, she also held the post of Deputy Permanent Secretary (Performance & Compliance) for Ministry of Finance. Her term ended on 19 April 2017.



Yang Mulia Shahrom bin Haji Suhaimi was appointed as a Member of Authority on 1 February 2014 and served until 31 January 2018. He also holds the post of Commissioner of Town and Country Planning Department.



Yang Mulia Haslina binti Haji Mohd Taib was appointed a Member of Authority on 1 February 2014 and served until 31 January 2018. She also holds the post of Chief Executive Officer of BAG Networks, a joint venture between the Government of Brunei Darussalam and Accenture, a global management consulting, technology services and outsourcing company.

MEMBERS OF AUTHORITY

STRUCTURE & PROFILES

APPOINTMENTS FROM 1 FEBRUARY 2018



Yang Mulia Dato Paduka Awang Haji Matsatejo bin Sokiaw was appointed as the AITI's Chairman on 1 February 2018. He also holds the post of Deputy Minister at the Ministry of Energy, Manpower and Industry.



Yang Berhormat Siti Rozaimeriyanty binti Dato Seri Laila Jasa Haji Abdul Rahman was appointed as a Member of Authority on 1 February 2018. She is also a Member of the Legislative Council.



Yang Mulia Haji Azhar bin Haji Ahmad was reappointed as a Member of Authority for two (2) years on 1 February 2018. He also held the post of Permanent Secretary at the Ministry of Communications.



Yang Mulia Pengiran Haji Mohd Zain bin Pengiran Haji Abdul Razak was reappointed as a Member of Authority on 1 February 2018. He is also AITI's Chief Executive.



Yang Mulia Dr Hajah May Fa'ezah binti Haji Ahmad Ariffin was reappointed for a further two (2) years on 1 February 2018. She also holds the post of Deputy Permanent Secretary (Economy and Finance), at the Prime Minister's Office.

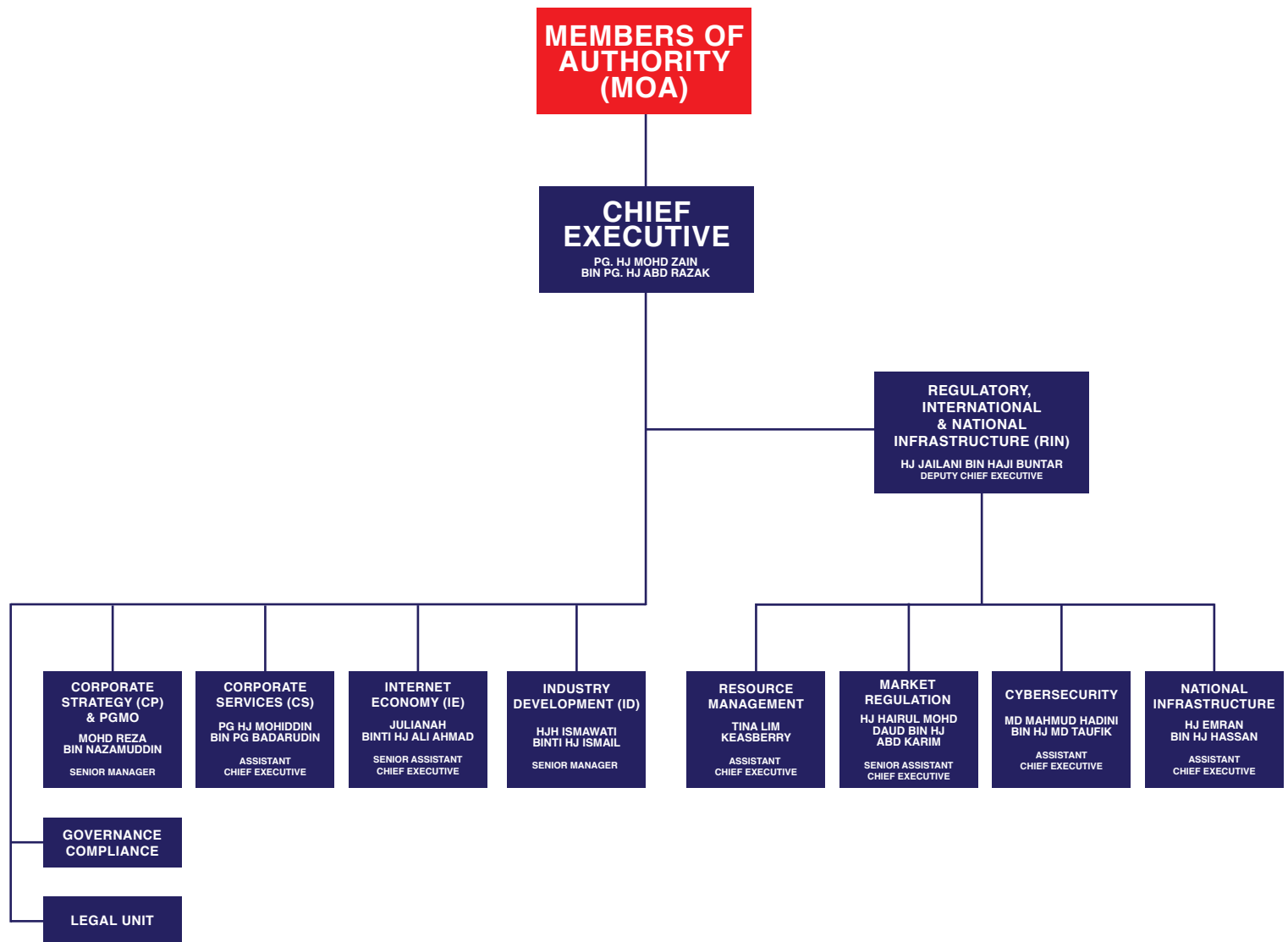


Yang Mulia Pengiran Dr Mohd Iskandar bin Pengiran Haji Petra was appointed as a Member of Authority on 1 February 2018. He is also Senior Assistant Professor at the Faculty of Integrated Technologies and Director, Office of AVC (Research and Innovation) at University of Brunei Darussalam (UBD).



Yang Mulia Haji Mohd Khairul Zaki bin Haji Mohiddin was appointed as a Member of Authority on 1 February 2018. He is also Head of FinTech at the Autoriti Monetari Brunei Darussalam (AMBD).

ORGANISATION STRUCTURE



STRATEGIC HIGHLIGHTS

The global telecommunications industry is developing dynamically with main players seeking to expand the boundaries of development. Currently, trends such as expanding the scope of 4G technologies, virtualisation of services, cloud, big data and analytics, the concepts of IoT and M2M, and cybersecurity are taking centre stage. What we have seen is that the telecoms industry is pouring into all possible areas of humanity with smart technologies are becoming an integral part of life. All of these innovations have led to a significant growth of information and telecommunication technologies.

According to a report by the GSMA, the number of mobile phone users in the world reached 5 billion in 2017, and this number will reach 5.7 billion – or three quarters of the world’s population – in 2020, while broadband mobile connection will reach 73% of mobile phone customers. Growth will occur mainly in the Asia Pacific region set to account for two thirds of the estimated 860 million new subscribers globally by the end of the decade.

It is with these global developments going on in the background that AITI has shaped our priorities for the previous financial year.

DRIVING TOWARDS SMART NATION

With the rapid growth of IoT and M2M technologies, and the global drive towards smart sustainable cities, AITI has begun its own foray into bringing smart technologies to the forefront of the local telecommunications landscape. AITI has worked closely with relevant stakeholders such as Universiti Brunei Darussalam and the Municipal Department under the Ministry of Home Affairs on concept proposal development for a Smart Cities pilot project.

PREPARING THE INDUSTRY FOR THE FUTURE

As part of our commitment to facilitate and create opportunities for the industry to capitalise on innovative and emerging technologies, AITI has published advisory guidelines on IPv6 in order to assist local telecommunications companies, IT SME’s and IT government departments to prepare for the next evolution in Internet networks. The guidelines are intended for all parties who are interested in implementing IPv6 in their network and provide information on IPv6 address planning, Internet infrastructure security as well

as security considerations during migration. Furthermore, AITI has also issued a Direction on the Adoption of IPv6 Technologies in Brunei Darussalam which applies to all Internet Service Providers, to ensure that IPv6 addresses are readily available by 2020. The Direction focuses on ensuring that the network capabilities, Internet-related applications and Customer-Premises Equipment of each Internet Service Provider are capable of supporting both IPv4 and IPv6 addresses.

AITI feels that this Direction is a step in the right direction in order to spur the adoption of IPv6 technologies, and ensure that Brunei Darussalam is able to benefit from continued global connectivity and capitalise on the long-term growth of the Internet.

FACILITATING INFRASTRUCTURE DEPLOYMENT

With regards to infrastructure development matters, AITI has been collaborating with the relevant government agencies to ensure that telecommunications facilities are well provided for.

For any building development, either for private or commercial purpose, AITI has been working closely with ABCi and TelBru for the telecommunications facilities requirements via the Code of Practice for In-building optical Fibre Cabling for General Housing Development (IFC GHD Code) and the Implementation Guidelines for In-building optical Fibre Cabling for General Housing Development (IFC GHD Guidelines).

As for the national housing development schemes, AITI has been working with the Department of Housing Development under the Ministry of Development to formalise telecommunications facilities requirements via

the Code of Practice for In-building optical Fibre Cabling for National Housing Scheme (IFC NHS Code) and the Implementation Guidelines for In-building optical Fibre Cabling for National Housing Scheme (IFC NHS Guidelines).

For any telecommunications tower deployment, AITI has also been working closely with the Town and Country Planning Department, Ministry of Development; the Department of Civil Aviation, Ministry of Communications and DARE to further develop telecoms tower deployment requirements via the Code of Practice for the Deployment of Mobile Telecommunications Structure Deployment (MTS Code) and Advisory Guidelines for the Deployment of Mobile Telecommunications Structure Deployment (MTS Guidelines).

AITI has also been working in collaboration with the Department of Roads for telecommunications facilities and services to be provided for the Brunei Temburong bridge project. Similarly with Pulau Muara Besar, AITI has been working closely with DARE to facilitate the deployment of telecommunications facilities requirements at the site.

DIGITALISATION OF SERVICES

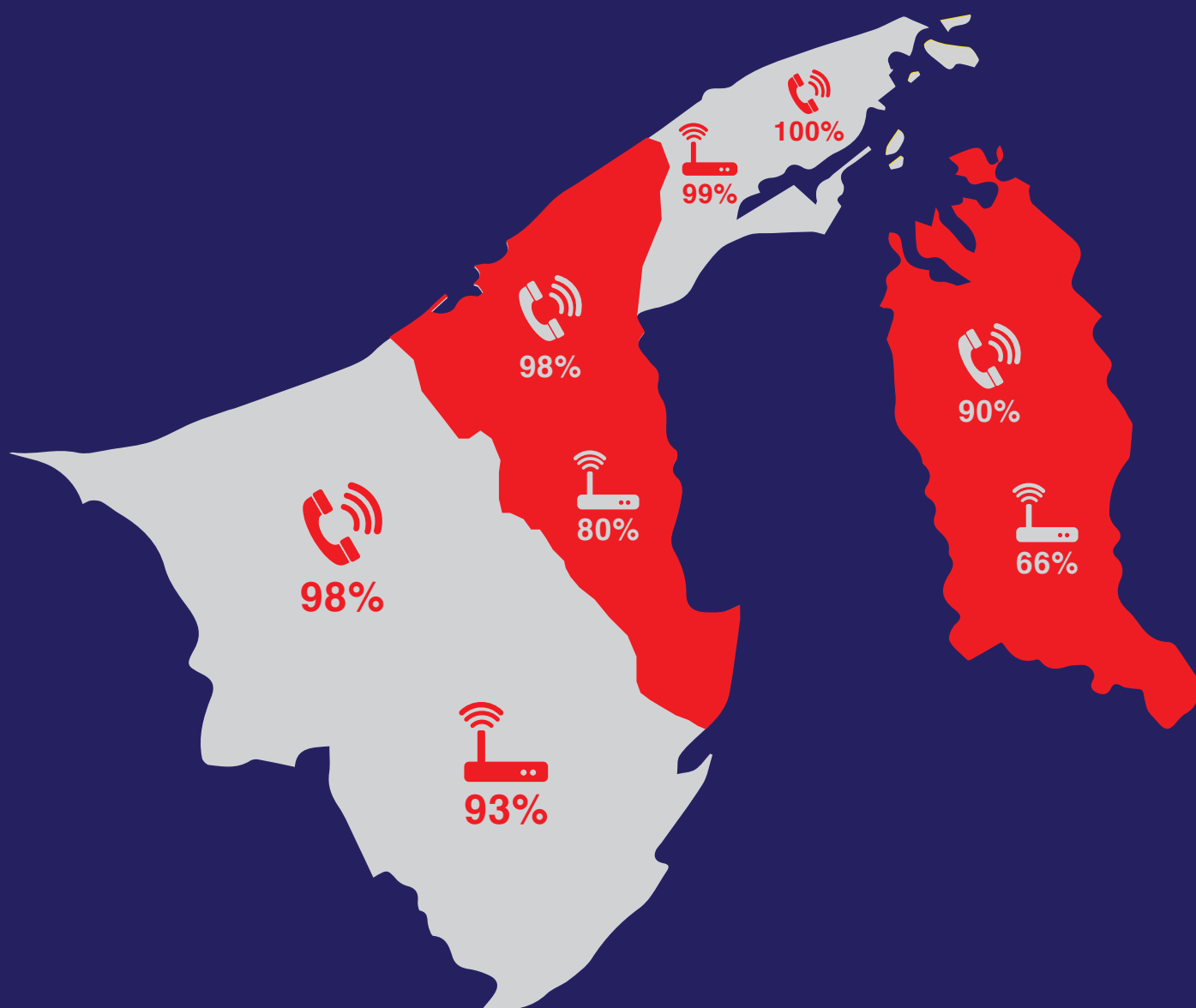
The telecommunications industry sits at the core of the digital revolution. Recognising the benefits of going digital, among them better engagement with customers and bringing greater efficiency to business processes, AITI's Online Services went live in May 2017. This project is part of AITI's efforts to enhance service delivery and to achieve organisational excellence through a digital transformation.

Licensees and members of the general public would now be able to apply and make payments for AITI licences, type approvals and amateur radio licences via AITI's Online Services. As of the end of the FY 2017/2018, a total of 2021 individual user registrations were received. 500 existing companies have also registered and started using AITI's Online Services, with an additional 190 new companies registered for the service. To date, a total of 3890 applications have been received.



NATIONWIDE MOBILE SERVICE COVERAGE

(A COMBINATION OF GSM, 3G AND 4G SERVICES) AS A PERCENTAGE OF THE POPULATION PER DISTRICT.



VOICE (GSM)

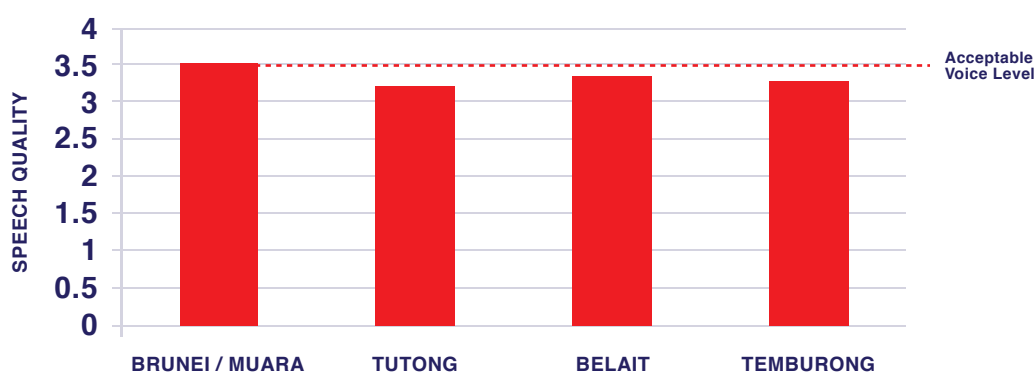


BROADBAND
(3G & 4G services)

PERFORMANCE OF MOBILE VOICE SERVICES

The graph below shows average measurements over each district. Speech quality is measured on a scale of 0 to 5, where the higher the value, the better the quality. Speech quality measurement of at least 3 indicates acceptable levels. The data shows that mobile voice quality in all districts are at an acceptable level.

MOBILE VOICE QUALITY IN BRUNEI ACCORDING TO DISTRICTS

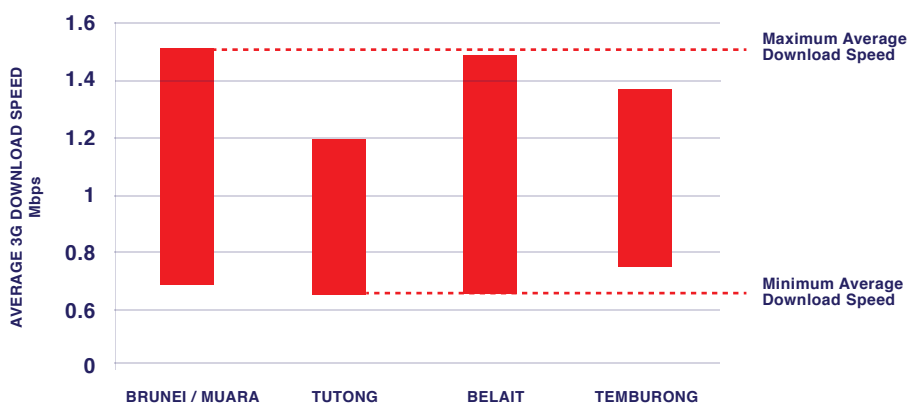


PERFORMANCE OF MOBILE BROADBAND SERVICES

Mobile broadband measurements here only focused on 3G and 4G networks.

The average 3G download speed actually measured in each of the four districts for 3G networks range from 600 Kbps to 1.5 Mbps. This is an improvement from last year's measurement, where the average 3G download speed recorded was between 500 Kbps to 1.1 Mbps.

MOBILE AVERAGE 3G DOWNLOAD SPEED IN BRUNEI ACCORDING TO DISTRICTS



PROMOTING ICT LITERACY

ICT SAVVINESS PROGRAM

The ICT Savviness Program is an initiative by AITI to promote digital literacy and ICT savviness among general public. The program is designed to educate individuals and the general public on the benefits of using ICT in their businesses to improve their productivity and reduce costs.

The program is a collaboration between AITI and Ministry of Home Affairs through the District Offices of all four (4) districts in Brunei Darussalam. The program targets Village Consultative Councils (locally known as Majlis Perunding Kampong or MPK) and aims to assist them in promoting their village products and activities to a bigger market by introducing these MPKs to the basics of web design and website development. It is hoped that they would be able to leverage on the Internet to market and sell their products.

The program is free-of-charge and typically runs for three (3) days, providing hands-on training in website development. The participants are introduced to a wide range of topics ranging from the basics of website development (using Mobirise) to web design, colour theory and story boarding. The aim is for the participants to be able to create a user friendly website with a modern look that can be published online. The workshops are conducted by local ICT companies as part of their corporate social responsibility programs.

To make the program more competitive, participants were given two (2) weeks to improve the websites they have created based on the skills they have learnt during the three (3) days' workshop. The purpose of the competition is to highlight the capabilities and the potential of each MPK to the head village. The winners of the competition were given a certificate of participation and acknowledgement on the websites they have created for their MPKs.

Phase 1 of the program started from 13 to 15 June 2017, with a total of ten (10) MPKs from all four (4) districts. Out of this number, only five (5) MPKs chose to participate in the subsequent competition. Based on feedbacks received after the workshop, there were issues raised with regards to difficulty in getting to the venue as it was quite a distance from their respective districts. Hence, phase 2 of the program was continued with a series of workshops that began in the Tutong District, followed by the Brunei Muara District and Belait District before ending in the Temburong District. The ICT Savviness Program was concluded on 1 February 2018.



TECH KIDS CAMP

As part of efforts to encourage youths and young students to experience ICT in a tangible and fun way, AITI continued with their annual Tech Kids Camp activity.

Tech Kids Camp kicked off from 19 to 21 March 2018 with a workshop and continued with camp activities from 26 to 28 March 2018. The six-day camp was aimed at children in Year 6 and 7, to learn the basics of programming. Among the objectives of the camp was to offer students the opportunity to experience the subjects applicable to programming, while providing tools to problem-solve, create, work in teams, and use critical thinking skills. This year's Tech Kids Camp saw students and supervising teachers worked as teams to develop an educational game-based project related to a given theme using a simple programming tool called Scratch.

At the end of the workshop, an ICT competition was held where students pitched their projects with the theme "STEM" (Science, Technology, Engineering and Mathematics) to a panel of judges. Sekolah Rendah Binturan Tutong won 1st place with a project entitled "Animals"; 2nd place winner was Sekolah Ugama Arab Menengah Perempuan Raja Isteri Pengiran Anak Damit (SUAMRIPAD) with "Addition and Subtraction of Fractions" while in 3rd place was Sekolah Rendah Muhammad Alam with "Healthy Food Group". Other prizes included the Best Presenter award which went to Sekolah Yayasan Sultan Haji Hassanal Bolkiah with project, "The Key to Classification Challenge" and the Best Mentor was awarded to Bobby Zakri Hj Abd Hamid from Sekolah Rendah Muhammad Alam. The winning team, Sekolah Rendah Binturan Tutong represented the country in the ASEAN Cyberkids Camp 2018, in which Brunei Darussalam hosted from on 4 to 6 September 2018.

A total of 48 students and 14 teachers from 12 different government and private schools throughout the country took part in the camp, which was held with the assistance of STEP Centre, Ministry of Education and Universiti Teknologi Brunei (UTB).



RAISING AWARENESS ON SAFEGUARDING CONSUMERS' INTEREST

CHILDREN'S FORUM 2017

In conjunction with the Universal Children's Day, AITI participated as a speaker in the Brunei Children's Forum 2017 which was organised by the Community Development Department (JAPEM), Ministry of Culture, Youth and Sports from 15 until 16 November 2017.

AITI was invited to present on a topic focusing on the Article 17 of the Convention on the Rights of the Child, the right that allowed the child to obtain information through mass media of interest to their health and well-being. With the current advancement of technology and facilities, information can be obtained easily. Because of this, children are always vulnerable to information that may endanger them. This includes the use of social media in children which can affect their safety.

The two-day forum was attended by a total of 50 students in year 9 and 10 from Government, Private and Arabic schools, including students with special needs. AITI was also invited to facilitate the discussion by interactively exchanging views with the students particularly on issues of staying safe on social media.

LEARNING PACKAGE ON SOCIAL MEDIA

Initiated by the Content Advisory Council (CAC), a learning package on social media was published to promote the responsible use of social media through education. This initiative was a collaboration between the Department of Curriculum Development, AITI as the Secretariat of Content Advisory Council (CAC), BruCERT (ITPSS) and other relevant agencies including Media and In-Services Centre (MiSC), Ministry of Education and Radio Television Brunei (RTB).

The learning package consisted of a guidebook on social networking and an interactive video on positive use of social media.

On 28 November 2017, the learning package was handed over to the Ministry of Education through the Department of Curriculum Development for distribution to government schools, private and arabic schools.



RAISING AWARENESS ON E-COMMERCE ADOPTION & SAFE ONLINE SHOPPING

In its efforts to increase the e-Commerce usage in this country, AITI initiated CyberShop Fest, the first online shopping campaign, that offers wide selection of products and services by the local online vendors. The campaign was organised by AITI with the support of Darussalam Enterprise (DARE) and Department of Economic Planning and Development. The main objective was to encourage the public to shop and trade online which in turn will increase the local adoption of e-Commerce. The two-month campaign started from 1 January 2018 and ended on 28 February 2018.

A total of nine local online vendors participated in CyberShop Fest 2018. They were Babakimpo, Kadairuncit, Naindah, Rotuku, Nimanjabruni, Bruvera, CJ.com.bn, Living Space Gallery and Repathlete.

In conjunction with the CyberShop Fest 2018, AITI hosted a Cyber Lounge at the 20th Consumer Fair at the International Convention Centre (ICC) on 24 to 28 January 2018. The general public were welcome to visit the AITI's Cyber lounge which also showcased products and services by few selected local online vendors. The consumers and visitors had the opportunity to learn about how to shop online from the local vendors and obtain tips for safe online shopping.

AITI also introduced the online shopping safety tips video which was displayed at the Cyber Lounge. These tips were developed jointly by AITI and ITPSS, and was published as e-booklet during the CyberShop Fest. The booklet was made available for download from AITI website.

In addition to the above initiatives, AITI also launched the first e-Commerce survey for consumers. The survey conducted throughout the CyberShop Fest campaign was aimed to study the e-Commerce adoption in Brunei Darussalam. The study targets the general public would assist AITI to formulate plans and regulatory framework to promote effective usage of e-Commerce and to increase consumer's confidence to make transactions, shop and trade online.



E-COMMERCE

ADOPTION & GROWTH

The tremendous growth and development of the Internet, and the proliferation of smart mobile devices, has led to a growing number of online users which has in turn increased the importance of electronic Commerce (e-Commerce) and online shopping. Globally, e-commerce retail platforms are outselling brick and mortar stores and this trend shows no sign of slowing down. Here in Brunei Darussalam, with an internet penetration rate of well over 100%, the trend of online shopping is gaining popularity.

In order to understand the current status of e-Commerce adoption and usage in this country, AITI commissioned its first e-Commerce Survey for Consumers in Brunei Darussalam. The survey, which was carried out between 7 January to 28 February 2018, aimed to understand consumer attitudes, behaviour and preferences towards e-Commerce as well as to identify factors that influence local consumer behaviour. The survey is in line with AITI's functions and duties to promote the use of the internet and e-Commerce and to establish regulatory frameworks for that purpose.

The survey found that 76% of respondents are already using e-Commerce, with convenience and time saved being the deciding factor in prompting them to shop online. Despite the high percentage of e-Commerce users, however, there are still various challenges that affect consumer consumption of e-Commerce services. Security and safety with regards to credit and debit card fraud remain a concern to consumers and, if not addressed, could hamper the further growth of local e-Commerce usage.

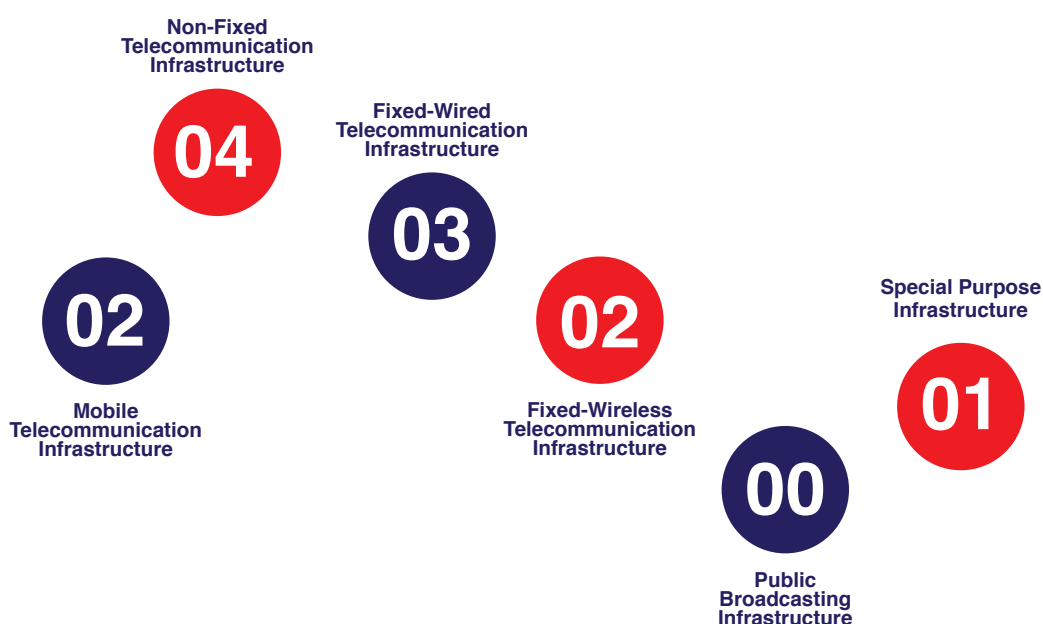
In this regard, AITI will continue to work closely with relevant stakeholders in seeking ways of addressing some of the findings of the survey. AITI hopes that the findings will benefit the relevant agencies in formulating the appropriate programs or initiatives that can help increase the adoption of e-Commerce in this nation.



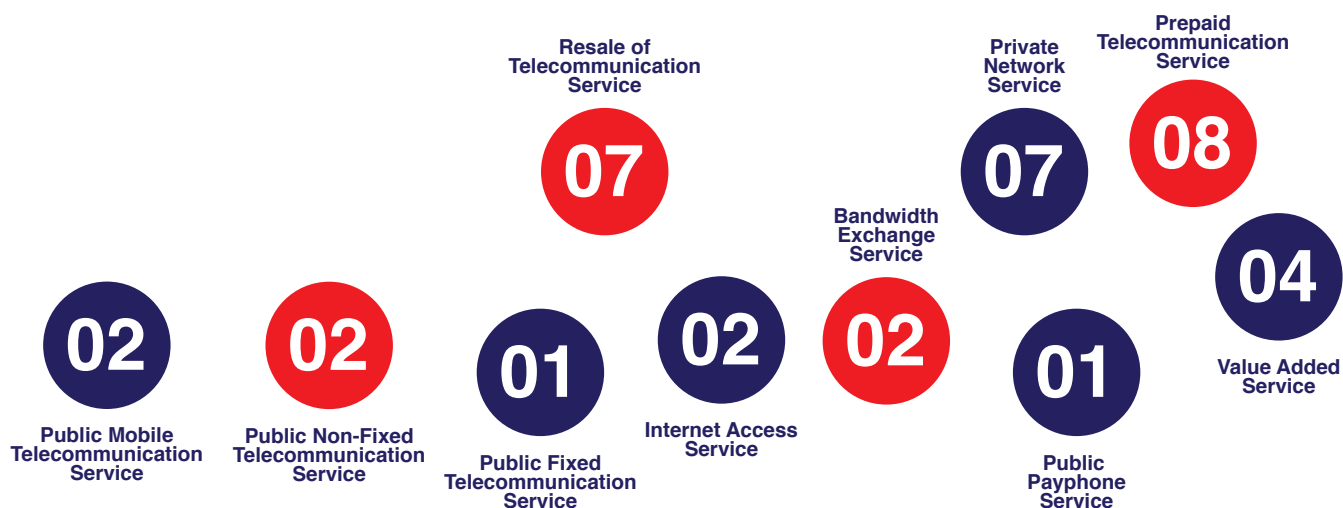
FACTS AND FIGURES

STATISTICS FOR INFRASTRUCTURE PROVIDER FOR THE TELECOMMUNICATION INDUSTRY (InTi) AND SERVICE PROVIDER FOR THE TELECOMMUNICATION INDUSTRY (SeTi) LICENSEES BY LICENCE CATEGORIES

NO. OF INTI LICENSEES BY LICENCE CATEGORIES FY 2017 / 2018



NO. OF SETI LICENSEES BY LICENCE CATEGORIES FY 2017 / 2018



FIXED BROADBAND SUBSCRIBERS



2012	20,742	Subscribers
2013	27,557	Subscribers
2014	30,259	Subscribers
2015	33,803	Subscribers
2016	36,120	Subscribers
2017	41,209	Subscribers
2018	42,109	Subscribers

FIXED LINE SUBSCRIBERS



2012	70,933	Subscribers
2013	66,779	Subscribers
2014	71,644	Subscribers
2015	76,002	Subscribers
2016	74,213	Subscribers
2017	76,019	Subscribers
2018	75,406	Subscribers

MOBILE BROADBAND SUBSCRIBERS



MOBILE PHONE SUBSCRIBERS

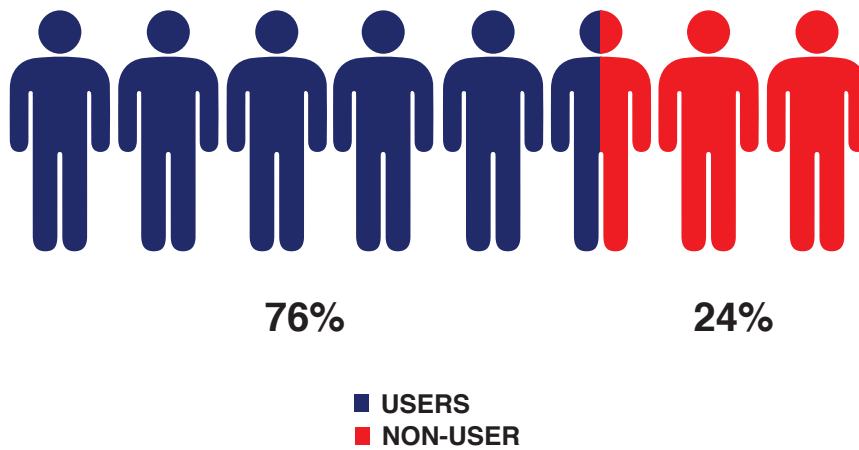


■ Prepaid
■ Postpaid

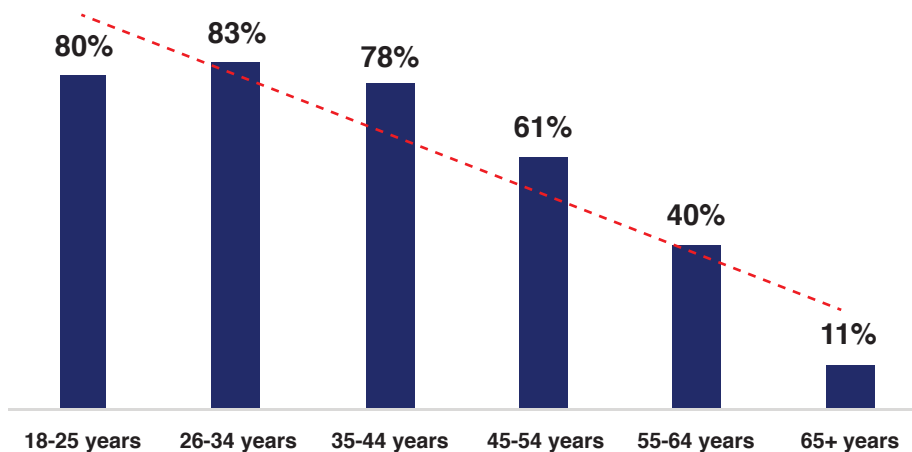


The e-Commerce Survey for Consumers in Brunei Darussalam 2018 was conducted online and offline using random sampling. A total sample size of 1016 people responded, within an age range of 18 to 65 years old. The margin of error on the results obtained was 3% with a confidence level of 95%.

RESPONSE BY E-COMMERCE AND NON-E-COMMERCE USERS



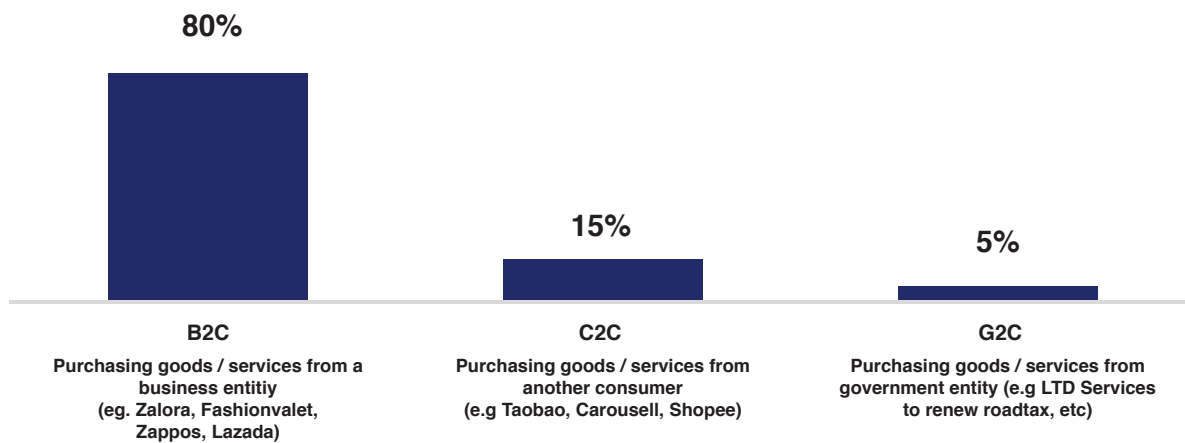
E-COMMERCE USERS: AGE GROUP



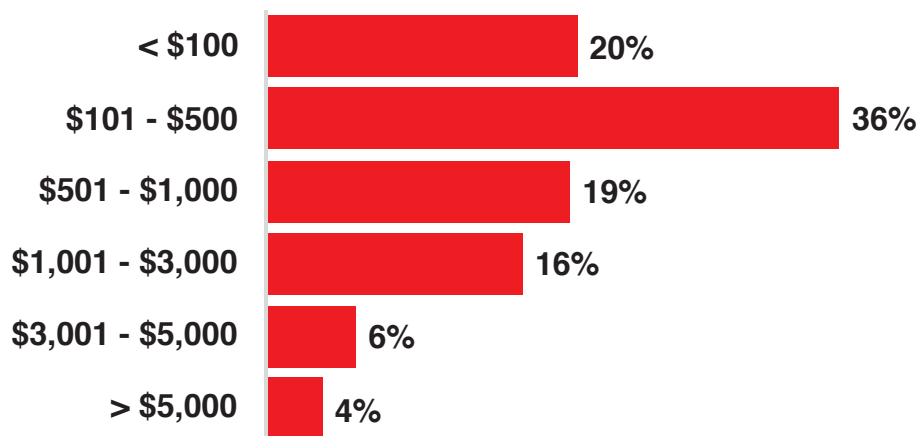
FACTORS INFLUENCING E-CONSUMER'S ONLINE PURCHASE



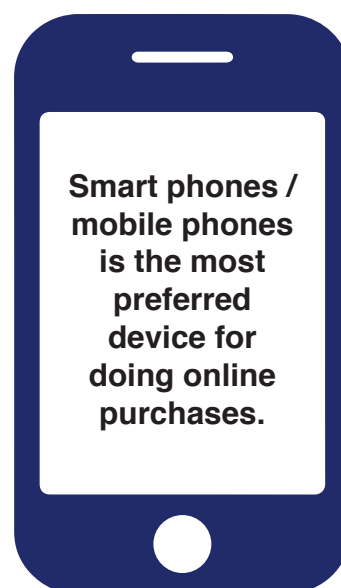
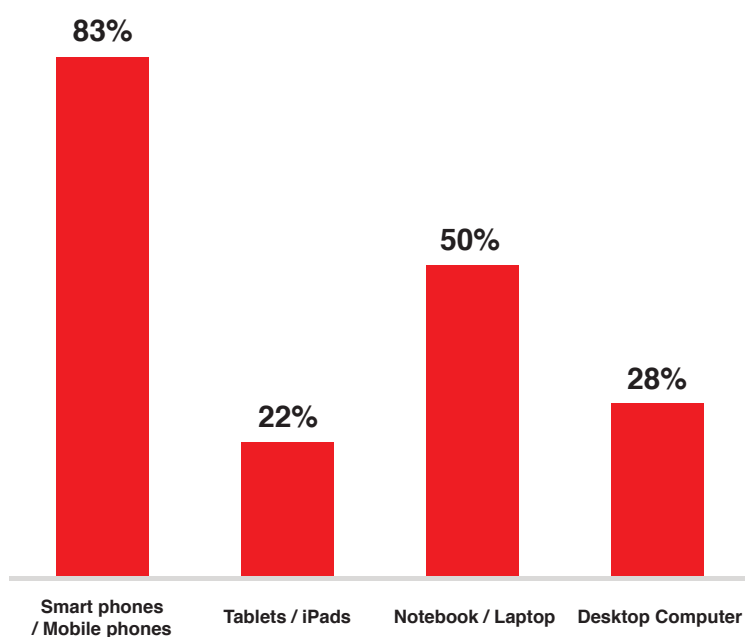
MAIN E-COMMERCE ACTIVITY



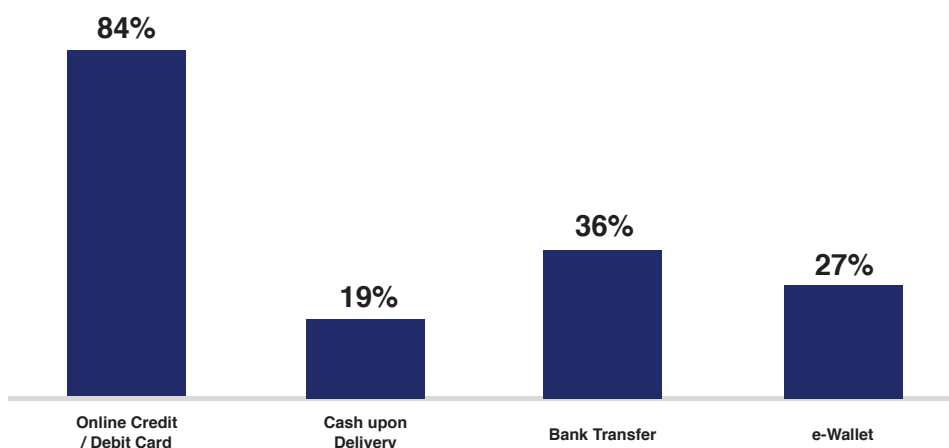
AMOUNT SPENT ON ONLINE PURCHASES FOR THE PAST YEAR



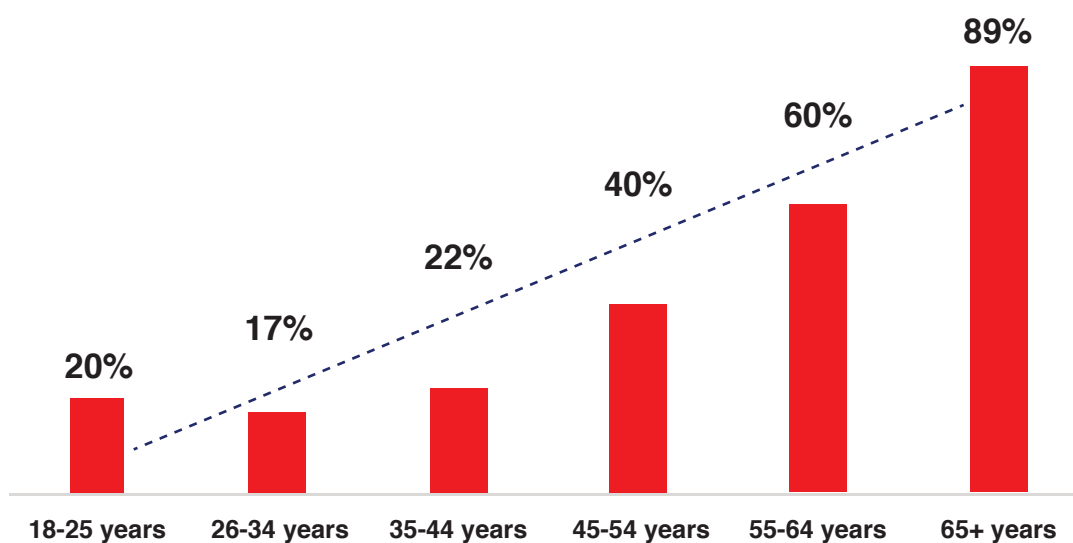
DEVICES USED FOR ONLINE SHOPPING



PREFERRED MODE OF PAYMENT FOR MAKING ONLINE PURCHASES



NON E-COMMERCE USERS: AGE GROUP





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