Licence Tax) Determination 2003 (No.2) and *Radiocommunications (Receiver Licence Tax) Determination 2003 (No.2)* in September 2011.

The ACMA also indicated that the introduction of opportunity cost pricing in the 400 MHz band would be subject to further consideration and consultation. In April 2012, the ACMA issued a discussion paper on the proposal and is currently considering the submissions received.

Review of the 2.5 GHz band and long-term arrangements for Electronic News Gathering.

The 2.5 GHz band (2500-2690 MHz) is currently used primarily by free-to-air broadcasters for electronic news gathering (ENG). The band was identified internationally for broadband wireless access services in 2000.

Throughout 2010 and 2011, the ACMA consulted extensively on the options and its preferred approach for the 2.5 GHz band. In November 2011, the Minister made a re-allocation declaration for the 2 x 70 MHz segments of the 2.5 GHz band. The declaration allows this 140 MHz of spectrum to be auctioned as part of the digital dividend.

In February 2012, the Minister made a spectrum designation notice for the central 50 MHz mid-band gap segment of the 2.5 GHz band. The notice designates the mid-band gap for spectrum licences as part of the conversion process to support Australia-wide ENG applications.

The ACMA is currently working on the development of the conversion plan, which will set out the procedures and timetable for issuing spectrum licences to replace existing apparatus licences in the 2.5 GHz mid-band gap. The ACMA expects the conversion process to take place in 2013.

RELEVANT WEBSITES

Department of Broadband, Communications and the Digital Economy (DBCDE):

www.dbcde.gov.au

www.digitalbusiness.gov.au

www.digitalready.gov.au

www.dbcde.gov.au/helpbutton

www.dbcde.gov.au/broadband/national_broadband_network/universal_service_policy.

www.dbcde.gov.au/funding_and_programs/digital_regions_initiative

www.dbcde.gov.au/online_safety_and_security/cybersafety_plan/cybersafety_research

Attorney-General's Department: www/agd/agd.nsf/Page/e-commerce%20

www.ag.gov.au/cybersecurity.

Australian Communications and Media Authority (ACMA):   www.acma.gov.au

Australian Competition and Consumer Commission (ACCC):   www.accc.gov.au

Australian Government Information Management Office (AGIMO):   www.agimo.gov.au

Office of the Privacy Commissioner: www.privacy.gov.au

Digital Television System Installation Handbooks:
www.dbcde.gov.au/television/digital_televison_switchover

Telecommunications Regulatory Reform:
www.dbcde.gov.au/funding_and_programs/national_broadband_network/telecommunications_
regulatory_reform

Stay Smart Online: www.staysmartonline.gov.au

Telecommunications Today: research report series:

www.acma.gov.au/WEB/STANDARD/pc=PC_9058

Australian Communications Consumer Action Network: www.accan.org.au

Telecommunications Universal Service Management Agency: www.tusma.gov.au

PHILIPPINES:
Economy Policy and Regulatory Update (TEL46)

This report provides updates on the report of the Philippines and it highlights the policy and regulatory initiatives and programs recently and continuingly undertaken by the Philippines to promote the use of information and communication technology (ICT) for national development.

ICT POLICIES AND REGULATIONS

1. Policy and Regulations Development and Advocacy

1.1 National Broadband Plan

The Broadband Plan is being formulated to provide detailed physical targets and strategies to effect nationwide broadband deployment and widespread use. The Plan would analyze existing and planned government and private sector deployment, with the end in view of addressing demand gap and recommend policy-related actions. It would also include, among others, a policy on National Internet Exchange that will provide guidance on the operation of national facility that would allow government and public data to freely flow within the country. This would ensure security of the data and transactions of and by the government and the public.

1.2 Digital TV Migration Plan

A Digital TV Migration Plan is being formulated to include technical standards, such as but not limited to presentation and compression format for digital broadcasting equipment and Set- Top-Boxes (STB), a regulatory framework, i.e., licensing, monitoring and enforcement, a process for allocating and awarding the digital dividend, effective and adequate human capacity development in digital broadcasting, plan for the analog switch-off. It would also include advocacy and communication plan to ensure the participation of all stakeholders and include consumer participation to the migration process.

The government already conducted series of consultation meetings with various stakeholders, such as the broadcasters through their organization, the Kapisanan ng mga Broadkaters ng Pilipinas (KBP), and other government agencies regarding the draft

Philippines Digital Terrestrial Television Broadcasting (DTTB) Migration Plan. Preparation of the corresponding IRR being handled by NTC is now in-progress in collaboration with the members of Technical Working Groups for DTTB Migration.

1.3 Celebration of the World IPv6 Day

The government together with ISOC Philippines, and IPv6 Forum Philippines, co-organized a Forum on the celebration of the World IPv6 Day on June 6, 2012 joining the whole world in the observance of IPv6 World Day. The Philippine government is fully committed in the awareness campaign on the importance of migrating to IPv6. The Forum was highlighted with the discussion of a community of practice to guide the group on the next steps to implement the migration to IPv6. The activity is a continuation of government's efforts to promote the deployment of IPv6 in the country. A project showcasing the benefits of IPv6 in an international event to be hosted by the Philippines is being planned.

1.4 Data Privacy

The Data Privacy Bill has now passed both Houses of Congress. For the first time the Philippines is expected to welcome a new Data Protection framework that will ensure the defence of key privacy rights that have been recognized all over the world. The APEC Privacy Framework has been used as a principal reference in the drafting of said policy measure.

The government spearheaded a workshop to diligently prepare for the passage of this landmark legislation, one that is welcomed as both a driver for further economic development as well as a protector of citizen's rights against unwarranted privacy policies or practices by both private and public organizations. The government partnered with a civil society organization which is currently undertaking a research project with the renowned global privacy watchdog Privacy International to   raise awareness and build stake-holding in privacy policy and implementation.

The objectives of the activity were:

(1) to map the current and emerging Philippine data privacy issues and concerns, particularly as they intersect with technology/ICTs/the Internet;

(2) to study the draft Data Privacy Act and explore areas for supporting the law via the design of appropriate Implementing Rules and Regulations; and,

(3)   to discuss current practices of government data-handlers to help various agencies transition to the new policy and regulatory regime that will emerge with the law's eventual passage.

The workshop was also participated by key government agencies that handle citizen's data and information, represented by their respective agency's Chief Information Officer.

1.5 Cybersecurity

The Anti-Cybercrime Bill has been passed in both Houses of Congress. The bill is now under consideration in the bicameral conference committee of the two houses, meaning the House of Representatives and the Senate. A focus group discussion is being planned in September for the formulation of the Implementing Rules and Regulations.

1.6 Regulatory Framework

Considering the growing demand for broadband access and recognizing the vulnerability of the consumers, regulatory measures to protect and promote the welfare and interest of the consumers were promulgated. Among which are:

MINIMUM SPEED OF BROADBAND CONNECTIONS
This measure requires broadband/internet access providers to specify the minimum speed of broadband/internet connection and the service reliability in their offers to consumers. The minimum service reliability shall be 80% of the time. The service provider may state in their offers the maximum connection speed that the consumers may experience.

INTERNET ACCESS THROUGH MOBILE PHONES
This measure requires mobile phone service providers to inform their subscribers/users of the charges for accessing the internet using their mobile phones; provide internet access only to subscribers/users that have opted for such service and send reminders to their subscribers/users who have already consumed 50% of their credit limit.

DATA ROAMING SERVICE
This measure requires data roaming service providers to make sure that their subscribers/users are fully informed of the rates and conditions of access to data roaming service and how to opt-in and opt-out of the data roaming service through text alerts and voice calls or other means.

II. INFRASTRUCTURE

2.1 Internet for All Programs

The overall goal of the Internet for All Program is to contribute to the country's broadband penetration and expand broadband infrastructure coverage in unserved/and underserved areas. The following are the expected measurable targets of the program: a) Universal broadband access at consumer level (rural businesses, households), b) Universal basic broadband access to (unserved/underserved) barangays through publicly shared access (Community e-Centers), c) Universal broadband access for public schools, government agencies and institutions, and d) Improved and cost-efficient broadband service delivery (tele-health, cloud applications, various e-government services, sensors (flood monitoring), etc).

To attain such goals, ICTO is currently developing specific projects and activities such as broadband deployment to rural areas using latest broadband wireless access (BWA) thru TV white space (TVWS) technology. To attain such goals, the Office has already identified and is implementing various Internet for all program initiatives in collaboration with concerned government agencies, private entities and the academe.

The Community e-Center (CeC) Program was launched to intensify the efforts from the different sectors in the Philippines such as agriculture, local government, health and education into one integrated delivery mechanism to enable local government units to deliver services more efficiently, while providing their respective constituents with access to the Internet & other ICTs. CeCs are common ICT service centers accessible to communities for use by citizens to access and use the Internet. DOST-ICTO aims to continue to support and to further expand this program aiming to have CeCs up to the barangay (village) level. Efforts will also be made for CeCs to be self-sustaining.

The establishment of new CeCs and enhancement of existing CeCs, including capacity building, advocacy and content development, activities are ongoing.

The statistics on the ICT infrastructure in the country are as follows:

	2009	2010	2011
Mobile Telecommunications Service	75,572,516	85,153,358	94,189,795
Broadband Access Service	1,939,486	3,559,543	3,906,946

The data on the broadband access service do not include subscribers of mobile telecom services accessing the internet using 3G and LTE networks.

The two (2) existing major infrastructure groups, namely: PLDT Group and Globe Group, are in the process of expanding their capacities and reach. Once completed these improvement, upgrading and expansion will provide consumers with higher broadband connection speed. It will also provide connectivity to more areas in the country.

A third major infrastructure provider is expected to be operational soon and improve market competition.

III.   CYBERSECURITY

3.1 Networked   Government CERT (NG-CERT)

The project is a continuation of previous initiatives to strengthen the capability of government and the country on cyber-security. The project aims to (1) design the networking of government agencies to immediately respond to any computer incidents, establish N-CERT, GOV CERT and Agency CERT in all government line agencies, (2) ensure that appropriate technologies to be utilized in the establishment and operation of CERTs follow national and/or international standards, and (3) improve the capacity of government to address effectively cyberthreats through training and actual hands-on operation of IT security resources.

IV.   ICT FOR DEVELOPMENT

4.1 ICT LITERACY

A project called Thin Cloud (Cloud Top) has been initiated by the government. It is an eLearning initiative of various government agencies which aims to better leverage ICT, specifically cloud computing technology and extending/providing broadband connectivity to far-flung public multi-grade schools, for the Philippine public education system. Currently, implementation on the first two identified elementary schools in Rizal as pilot sites is ongoing.

ICTO is considering Broadband Wireless Access (BWA) thru the use of the so-called TV White Space (TVWS) technology for the broadband connectivity requirement of this project.

4.2 E-GOVERNMENT

An initiative called the Integrated Government Project (iGov) has been launched in June 2012. The project aims to (1) improved public access to government online services nationwide; (2) significant savings for government since it is expected to lower operational costs on redundant facilities, and also, government investment on the network infrastructure will be cut-down significantly by utilizing the existing government-owned communications assets; and (3) potentially quick and easy implementation through public-private sector collaboration.

The project include enhancement of existing systems, enhancement and operationalization of the PKI facility, setting up of the Manila Data Center, setting up of the Cebu Data Center, setup of government-wide e-mail & Collaboration system, Development of gov't-wide document management and warehousing.

Major components of iGov Project are a) Supply, Delivery and Installation of various computing & storage servers for data centers b) Supply, Delivery, and Installation of PKI Supply, c) Delivery and Installation of various Fiber and Network Equipment Hardware d) Supply, Configuration, Installation of E-mail Software, Services and Support, e) Supply, Configuration, Installation of PKI Software, Services and Support and f) Supply, Delivery and Installation of Fiber Network.

During its pilot phase (ongoing implementation), it will cover the National Capital Region (NCR) government agencies. These include around 19 major National Government Agencies, 47 government offices and around 8 government hospitals.

APEC TEL 46
Update[1] on Policy and Regulatory Developments
Hong Kong, China
(Position as at 1 August 2012)

A.　**Public consultation on reduction of telecommunications licence fees**

The Commerce and Economic Development Bureau (CEDB) and the Communications Authority (CA) jointly issued a consultation paper on 29 June 2012 to invite views from the telecommunications industry and public concerning a proposed reduction of licence fees payable for each customer connection / mobile station from HK$8 to HK$7 under unified carrier licences (UCLs), services-based operator (SBO) licences (Class 3), and public radiocommunications service (PRS) licences (Paging).

The proposed licence fee reduction have taken into account the continual growth of customer connections/mobile stations in recent years and cost incurred by the Office of the Communications Authority (OFCA) in administering the licences. According to the records, the number of customer connections/mobile stations under these three types of licences has increased by 6.3 per cent from 14.4 million in 2010-11 to 15.3 million in 2011-12, and it is anticipated that the growth trend will continue.

The consultation exercise has finished on 30 July 2012. Subject to the response to the consultation exercise and the necessary legislative amendments, it is anticipated that the proposed licence fee reductions will take effect from 1 March 2013.

B.　**Implementation of the Code of Practice in Relation to Billing Information and Payment Collection for Telecommunications Services**

In October 2011, with a view to enhancing the transparency of pricing of

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[1]　The web sites of the Communications and Technology Branch of Commerce and Economic Development Bureau (CEDB), the Communications Authority (CA) and the Office of the Communications Authority (OFCA) provide more information on all the subjects covered in this Update. Their web addresses are www.cedb.gov.hk/ctb, http://www.coms-auth.hk and www.ofca.gov.hk respectively.

chargeable items in telecommunications services, the former Telecommunications Authority [1] (now the Communications Authority) issued the Code of Practice in Relation to Billing Information and Payment Collection for Telecommunications Services ("CoP"). The CoP provides guidelines on the information to be included in bills and on the arrangements for payment collection, for compliance by operators on a voluntary basis. In the event of any incident involving systematic errors on billing, operators are required to report to OFCA in a timely manner.

Service providers shall provide sufficient information in their bills to allow customers to verify charges incurred for usage of their services. Where charges of a service are based on the amount of usage (e.g. call duration, volume of data, number of events etc.) service providers shall provide in the bills the breakdown of the charges for each type of services including the amount of usage and the corresponding charge.

For the purpose of verifying the charges incurred for usage of services, consumers may, —

- *request* telecommunications service providers to provide, within seven to 14 working days (see footnote [2]), itemised details of the charges for bills within the last three months from the date of the request; and

- *need to pay* a reasonable charge for the requested information (however, no charge will be levied should the discrepancy stem from inaccuracies or errors of the billing information or the billing system of the service provider).

The CoP can be downloaded at http://tel_archives.ofca.gov.hk/en/code/cop20111011.pdf.

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[1] Pursuant to the Communications Authority Ordinance (Cap 616), with effect from 1 April 2012, all duties and powers of the Telecommunications Authority are conferred on the Communications Authority (CA), and all duties and powers of the Office of the Telecommunications Authority are conferred on the Office of the Communications Authority, the executive arm of the CA.

[2] A lead-time of 14 working days will apply for requests for information on websites or Internet-Protocol (IP) addresses which are associated with disputes on the concerned usage. In view of the amount of the information associated with the websites or IP addresses which may be recorded, service providers may provide a list of websites or IP addresses which contributes to the top 60% or more of either the traffic or the billed amount concerned.

As of July 2012, the majority of local fixed and mobile network operators have pledged compliance with the CoP. To enable customers to make informed choice, we have published the compliance status of individual operators on OFCA's website. We will closely monitor the implementation and effectiveness of the CoP.

C. Public consultation on arrangements for the frequency spectrum in the 1.9 – 2.2 GHz band upon expiry of the existing frequency assignments for 3G mobile services

Hong Kong, China has one of the most competitive mobile telecommunications markets in the world, with five mobile network operators ("MNOs") serving a population of seven million using frequency spectrum in the 800/900 MHz, 1700 – 1900 MHz, 1.9 – 2.2 GHz and 2.5/2.6 GHz bands. The mobile subscriber penetration rate reached a high of 215%.

Frequency spectrum in the 1.9 – 2.2 GHz band was assigned through auction to four MNOs for the provision of third-generation ("3G") mobile services in October 2001. Each MNO was assigned 2 x 15 MHz of 3G spectrum for a tenure of 15 years. The existing term of assignments will expire in October 2016. According to the Spectrum Policy Framework of the Government, there is no legitimate expectation of the part of the licensees that there will be any right of renewal or right of first refusal of any licence or frequency assignment upon its expiry.

In order to work out the post-October 2016 arrangements for the 1.9 – 2.2 GHz band, the Secretary for Commerce and Economic Development and the former Office of the Telecommunications Authority (now OFCA) jointly issued a consultation paper on 30 March 2012 to solicit views and comments of the industry and other interested parties. The following three options were proposed in the consultation paper for reassignment of a total of 2 x 60 MHz of spectrum in the 1.9 – 2.2 GHz band:

- Option 1: Right of first refusal to be offered to the incumbent 3G operators;
- Option 2: Re-auction all the spectrum; and
- Option 3: A hybrid option – right of first refusal to the

incumbent 3G operators to retain part of the spectrum
while return part of the spectrum for re-auction

Each option has its pros and cons in terms of customer service continuity, efficient spectrum utilisation, encouragement of investment, and promotion of innovative services and effective competition. The consultation paper is available at http://www.coms-auth.hk/filemanager/common/ policies_regulations/consultations/papers/cp20120330.pdf

Upon the close of the consultation in mid-July, a total of 11 submissions was received. We plan to conduct a second consultation by end 2012 or early 2013, where a more concrete proposal with detailed parameters for reassignment of the frequency spectrum in the 1.9 – 2.2 GHz band will be put forward. The aim is to make a decision by October 2013, so that the incumbent 3G operators will be given a three-year advance notice as to whether the 3G frequency assignments will be renewed with different frequencies assigned or not be renewed at all upon expiry.

D. Landing of New Submarine Cables into Hong Kong

OFCA has introduced measures to make it more efficient and user-friendly for interested parties to land new submarine cable systems into Hong Kong. Such measures include launching of a thematic web portal (http://www.ofca.gov.hk/en/industry_focus/telecommunications/facility_bas ed/infrastructures/submarine_cables/index.html) on the subject and providing a single-point-of-contact service. The measures have been well-received by the industry, and have helped attract the landing of two new submarine cable systems, namely Asia Submarine-Cable Express (ASE) and Southeast Asia Japan Cable (SJC), into Hong Kong.

Since the early 2011, OFCA has been assisting the submarine cable system operators in applying for the necessary statutory approvals for landing of the two new cable systems in Hong Kong. With the active coordination of the relevant Government departments and parties, the applications are progressing well. The installation work of one of the projects has started. The application procedures of the other project will soon be completed and its installation work is expected to start in the coming months. These two new systems are scheduled to be launched in 2012/2013.

At present, there are seven regional and trans-Pacific submarine cable systems landed in Hong Kong. We are also connected with the overland cable networks of all three telecommunications operators in the Mainland. As of March 2012, the total equipped capacity of submarine and overland cable systems in Hong Kong was 7142 Gbps, over 77% of which was activated.

OF CA
OFFICE OF THE
COMMUNICATIONS AUTHORITY

Update on Policy and Regulatory Developments of Hong Kong, China

Plenary Session
APEC TEL 46, St. Petersburg, Russia
1 August 2012

Public consultation on reduction of telecommunications licence fees

- At present, the following licensees shall pay annual licence fees that include, among other things, HK$8 for each customer connection / mobile station
  - unified carrier licence (UCLs),
  - services-based operator (SBO) licence (Class 3), and
  - public radiocommunications service (PRS) licence (Paging)
- A consultation paper was issued on 29 June 2012 to invite views from the industry and public on a proposed reduction of the said fees from $8 to $7 for each customer connection/mobile station

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COMMUNICATIONS AUTHORITY

Public consultation on reduction of telecommunications licence fees (2)

- The proposed licence fee reductions have taken into account
  - ▸ the continual growth in number of customer connections / mobile stations in recent years (6.3 % increase from 14.4 million in 2010-11 to 15.3 million in 2011-12 for the licences concerned); and
  - ▸ OFCA's cost in administering the licences

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OFFICE OF THE
COMMUNICATIONS AUTHORITY

Public consultation on reduction of telecommunications licence fees (3)

- The consultation exercise has ended on 30 July 2012
- OFCA will analyse the views received and finalise the proposal
- Subject to the necessary legislative amendments, it is anticipated that the proposed licence fee reductions will take effect from 1 March 2013

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CoP for Billing Information and Payment Collection

- The Code of Practice in Relation to Billing Information and Payment Collection for Telecommunications Services ("CoP") was issued in Oct. 2011, which aims to
  - enhance transparency of pricing of chargeable items in telecommunications services,
  - provide guidelines on the information to be included in bills and the arrangements for payment collection, for compliance by telecommunications service providers on a voluntary basis
  - require telecommunications service providers to report to OFCA in a timely manner in the event of any incident involving systematic errors in billing information or payment collection

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CoP for Billing Information and Payment Collection (2)

- information service providers shall take all reasonable, necessary and practical steps to ensure that their billing information provided to customers are accurate and error-free for all forms of bills
- Requirements for two different situation
  - Baseline requirement for normal billing
  - Requirement on itemisation upon consumer's inquiry on detailed usage or for billing dispute resolution

CoP for Billing Information and Payment Collection (3)

- For verifying charges incurred for usage of services, consumers may
  - request telecommunications service providers to provide, within seven to 14 working days, itemised details of the charges for bills within the last three months from the date of the request
  - need to pay a reasonable charge for the requested information
    - ✓ no charge will be levied should the discrepancy stem from inaccuracies or errors of the billing information or the billing system of the service provider

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CoP for Billing Information and Payment Collection (4)

- As of July 2012, majority of the local fixed and mobile network operators have pledged compliance with the CoP
- To enable customers to make informed choice, OFCA has published the compliance status of individual operators on its website: http://www.ofca.gov.hk
- OFCA will closely monitor the implementation and effectiveness of the CoP

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Arrangement for the use of the 1.9 – 2.2 GHz band after Oct 2016

- Hong Kong, China has one of the most competitive mobile telecommunications markets in the world
  - five mobile network operators ("MNOs") serving a population of seven million
  - frequency spectrum in the 800/900 MHz, 1700 – 1900 MHz, 1.9 – 2.2 GHz and 2.5/2.6 GHz bands are used for cellular mobile services
  - mobile subscriber penetration rate reached a high of 215%
- The 1.9 – 2.2 GHz band was assigned to the successful operators by open bidding in 2001 and the existing term of assignments will expire in October 2016
  - there will not be any right of renewal or right of first refusal of any licence / frequency assignment upon expiry

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Arrangement for the use of the 1.9 – 2.2 GHz band after Oct 2016 (2)

- A consultation paper was issued on 30 March 2012
  - to solicit views and comments of the industry and other interested parties on the arrangements for the frequency spectrum in the 1.9 – 2.2 GHz band after October 2016
- Three options were proposed in the consultation paper for re-assignment of spectrum in the 1.9 – 2.2 GHz band
  - Option 1: Right of first refusal to be offered to the incumbent 3G operators
  - Option 2: Re-auction all the spectrum; and
  - Option 3: A hybrid option – right of first refusal to the incumbent 3G operators to retain part of the spectrum while return part of the spectrum for re-auction

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Arrangement for the use of the
1.9 – 2.2 GHz band after Oct 2016 (3)

- Upon the close of the consultation exercise in mid-July, a total of 11 submissions was received
- OFCA plans to conduct a second round of consultation by end 2012 or early 2013 to
  - put forward a more concrete proposal with detailed parameters for reassignment of the 1.9 – 2.2 GHz spectrum
  - make a decision on the review by October 2013
- The incumbent 3G operators will be given a three-year advance notice as to whether
  - the 3G frequency assignments will be renewed with different frequencies assigned; or
  - not be renewed at all upon expiry

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Landing of New Submarine
Cables into Hong Kong

- OFCA has introduced measures to make it more efficient and user-friendly for interested parties to land new submarine cable systems into Hong Kong, including
  - launching of a thematic web portal on the subject
  - providing a single-point-of-contact service
  - Assisting submarine cable system operators in applying for the necessary statutory approvals for landing new cable systems into Hong Kong

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Landing of New Submarine Cables into Hong Kong (2)

- The following two new submarine cable systems will soon be landed into Hong Kong:
  - Asia Submarine-Cable Express (ASE), and
  - Southeast Asia Japan Cable (SJC)
- These two new systems are scheduled to be launched in 2012/2013
- At present, there are seven regional and trans-Pacific submarine cable systems landed in Hong Kong

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Landing of New Submarine Cables into Hong Kong (3)

- HK is also connected with the overland cable networks of all three telecommunications operators in the Mainland
- As of March 2012, the total equipped capacity of submarine and overland cable systems in Hong Kong was 7142 Gbps, over 77% of which has been activated

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Thank You

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附件十　新加坡-國情報告

POLICY AND REGULATORY UPDATE

SINGAPORE

Key ICT Indicators

	Penetration @ Feb 12
Residential Wired Broadband Household Penetration Rate	104.3%
Mobile Phone Penetration	148.9%
3G Penetration (as a percentage of overall mobile penetration)	75.13%

New Regulations for 3G Mobile Quality of Service Framework

Since 1 April 2012, IDA has raised the minimum quality of service (QoS) standards for 3G mobile services in phases. This will allow time for the operators to step up their resources, measure their performance under the new framework, and upgrade their networks.

Under the enhanced 3G mobile QoS framework, consumers can benefit from better quality of 3G mobile services such as better mobile and broadband experience. Mobile service operators are required to meet 99% service coverage for 3G mobile service in nationwide outdoor areas, road and Mass Rapid Transit (MRT) tunnels. In-building coverage will be set at more than 85 per cent within each building. The in-building QoS standards will come into effect from 1 April 2013.

Minimum standards have also been set for peak hour success call rates and drop call rates for mobile calls. The average monthly success rate for PSTN/mobile originated calls across all cell locations has been raised from more than 95 per cent to more than 99 per cent. For drop call rate of PSTN and mobile originated calls, the average monthly drop call rate across an entire month has been reduced from less than 5 per cent to less than 1 per cent. Operators may be subject to financial penalties of up to $50,000 for each instance of non-compliance of these new QoS standards, an increase from the previous financial penalty of $5,000.

Use of Electronic Compliance Labels

As part of IDA's continuous effort to streamline its licensing and equipment registration processes, IDA has recently revised its regulations to reduce business cost for telecommunication service providers and equipment dealers.

The use of electronic compliance labels on registered telecommunication equipment is allowed from 4 April 2012. By allowing electronic labelling, this helps dealers comply with IDA's equipment registration requirement in a more cost effective manner. Telecommunication equipment dealers licensed by IDA, such as suppliers or manufacturers, are permitted to display the compliance label on the equipment's built-in display screen or in the softcopy of the equipment's instruction manual, as an alternative to traditional sticker labels.

Compliance labels facilitate the easy identification of telecommunication equipment that has been approved for use in Singapore. This provides greater assurance to consumers at the point of purchase that the telecommunication equipment has been approved for use in Singapore. This label also identifies the registering equipment suppliers. Licensees however will have to ensure that the equipment packaging contains information for consumers about where to locate the electronic compliance label for verification.

Consumer Protection Measures

From 1 February 2012, consumers are able to activate a service to bar Premium Rate Services (also known as PRS), which are mobile content services such as ringtone, game downloads, quiz services, news services, chatlines, etc. This is aimed at protecting consumers (especially children) from activating chargeable mobile content services.

Consumers who want to subscribe to PRS will be reminded to read and fully understand the service price, and terms and conditions before subscribing to any PRS. Parents who provide their children with mobile phones should also educate them that such services may incur additional charges. They should similarly look out for reminder SMS messages highlighting charges payable, and how to unsubscribe.

Limiting of Data Roaming Charges

Also starting from 1 February 2012, consumers now have access to a service to suspend data roaming service when their data roaming charges reach a maximum of $100 every month. With the new service in place, consumers could deactivate/reactivate data roaming more easily, so as to minimise data roaming bill shock for users from data roaming services.

Publication of Typical Broadband Speeds

Another new change starting from 4 April 2012 is the requirement for Internet Service Providers to provide more transparency on the broadband speeds so that consumers can make better decisions when choosing a broadband plan which best meets their needs.

Internet Service Providers (ISPs) providing fixed and mobile broadband services are required to publish information on typical download speeds that consumers are likely to experience, on top of the theoretical maximum speeds they are currently publishing. This information will be published on the ISPs' websites and other advertising materials.

Consumers will be advised to take note that there are other factors affecting the broadband speeds which are beyond the ISPs' control, such as the capability of the equipment used by the end-user, the location of websites being accessed, the bandwidth provided by the website administrator, and the types of applications used.

Status of Next Generation National Broadband Network (NGNBN)

As of April 2012, the rollout of Fibre-to-The-Home (FTTH) is over 90%, with more than 133,000 fibre optic subscribers. There are 20 RSPs of which 12 are already offering services - over 40 service packages in the market.

Prices for 25 Mbps to 1 Gbps plans with promotional prices for 100 Mbps plans start as low as $40, significantly lower than non-Next Gen NBN offerings. Additionally, competition between service providers have also resulted in more competitive fibre service pricings, leading up to 30% reductions for of the 100 Mbps price plans.

With the launch of services over the Next Gen NBN, several of the new RSPs started differentiating by offering 1 year or "no-contract" service plans, and also provided greater transparency over the quality of service being provided. This has put pressure upon the other operators to similarly improve their terms and communication with consumers.

The entry of new service providers has also brought about the introduction of innovative service plans beyond just high-speed broadband. Beyond bundling the new ultra-high speed broadband services, some operators are targeting specific segments: e.g. there are now 3 operators offering new plans targeted at gamers that provide enhanced connectivity, and speed boosts to output 50% extra bandwidth at peak periods. Several RSPs have also differentiated themselves by providing value added services such as online storage, VPN and IPTV services, cloud solutions, managed services, immersive learning as well as loyalty programs that give users discounted offers for popular electronic peripherals.
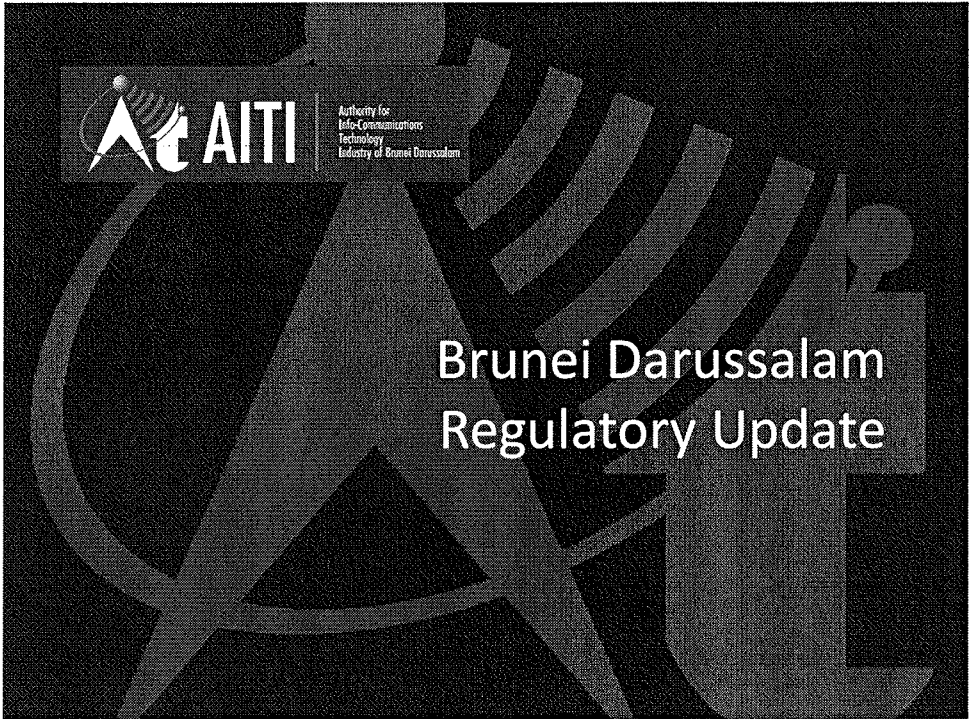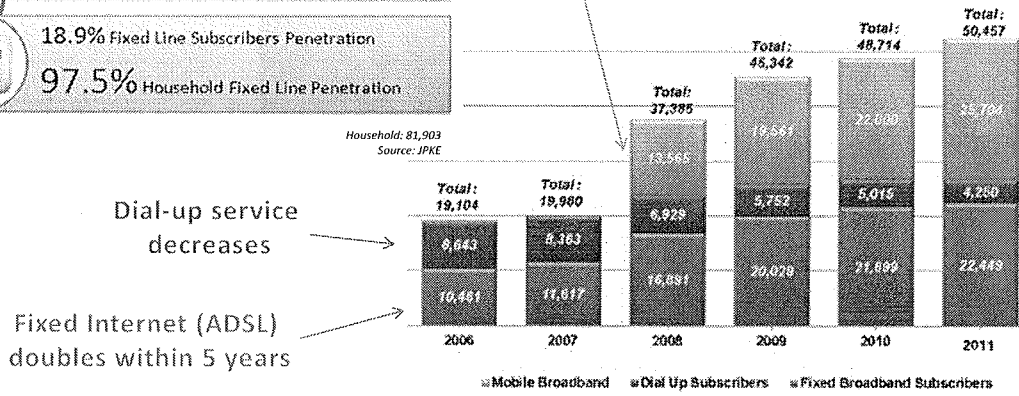
Contents

Key ICT Indicators

Regulatory Development

Industry Development
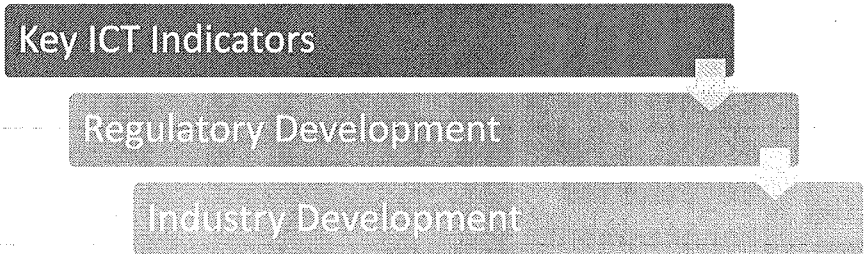
Key ICT Indicators

105% Mobile Subscribers Penetration

12.6% Internet Subscribers Penetration

61.6% Household Internet Penetration

18.9% Fixed Line Subscribers Penetration
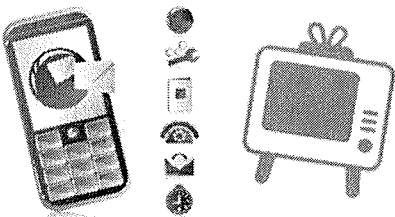
97.5% Household Fixed Line Penetration

Household: 81,903
Source: JPKE

Introduction of mobile broadband (HSDPA)

Internet Subscribers

Dial-up service decreases

Fixed Internet (ADSL) doubles within 5 years

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Converged Framework

Improvements in technology have led to technological convergence and other developments. These cannot be catered to under current licensing systems.

For example: Triple play (Voice, Internet and Media) combined services

Implementation

Licence Migration

Enhancement

Introduction of Competition Code

Revise Pricing structure

Approach

Maintain separate legislative instruments

Technology-neutral unified licensing structure
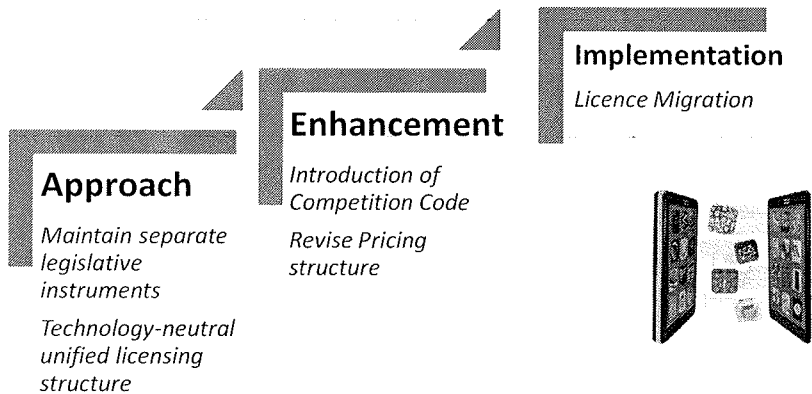
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Fiber Infrastructure

TelBru started rolling FTTH in several areas of Brunei

Service is available in 2012

Gov't will be providing support for nationwide deployment

Structural separation for infrastructure and service
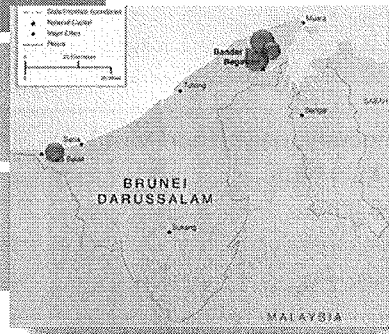
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Spectrum for 4G

- Adopted CEPT band plan for 2.6 GHz band:

FDD (paired)	TDD (unpaired)	FDD (paired)	
2500 MHz	2570 MHz	2620 MHz	2690 MHz

- Currently, migration of existing assignments
  - Target date: Q1 of 2013
- AITI has made available 1800 MHz band for LTE trials

75 MHz	75 MHz
1710 MHz 1785 MHz	1805 MHz 1880 MHz

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Spectrum Pricing

Development of spectrum pricing policy & formula:

1 — Application fees

2 — Fees for spectrum usage

      2.1 Temporary usage (Short term)
      2.2 Medium term
      2.3 Long term

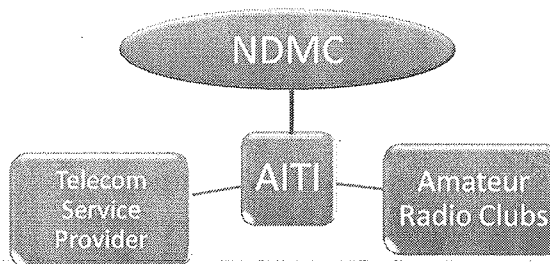**3** — Fees for Station Licence
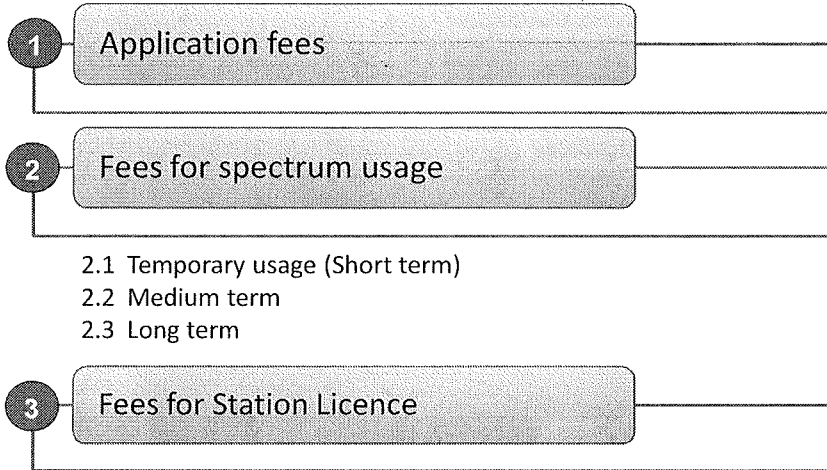
•Implemented since 1st January 2012

Emergency Communication

❑Supporting role to NDMC

❑Focal point for Telcos and Amateur Radio Clubs

❑Continuous exercise with other agencies to deal with emergency and disaster

NDMC

Telecom Service Provider — AITI — Amateur Radio Clubs

Engaging Community

- Held dialogue with representatives of district and village through out all 4 districts.
  - the importance of **tower** to give mobile coverage in rural areas.
  - standard and guideline use on erection of tower & **safety** level from antenna.
  - Inform **plans** made by each mobile provider to provide mobile coverage in each district.

Management of .bn domain

AITI to manage .bn domain name
- Promote the use of .bn
- Provide better governance
- Promote competition

Registry – Registrar model
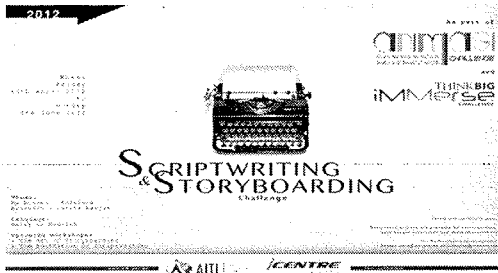
International 'best practice' framework and approach

.bn

ICT Competency Program

- AITI offers subsidized training courses to train the local citizens with the relevant ICT skills and knowledge
  - empower the non-ICT job seekers with basic IT literacy, and upgrade SMEs' employees with professional ICT certifications.
  - Minimum subsidy of **50%**

Oracle Database   Photoshop
MS SQL Server
CCNA   Dreamweaver   CompTIA
IC-Citizen Training & Certification
ICDL

Innovation in Multimedia

Brunei Stories Scriptwriting and Storyboarding Challenge
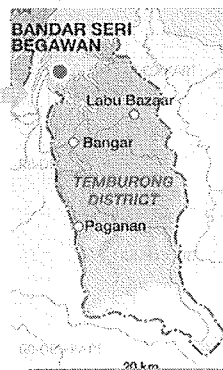
Collaboration between AITI and iCentre

–to discover and support emerging writing talents in particular to create a script and a storyboard based on the common title **Bruneian Folklore**.

–to encourage aspiring, emerging and established scriptwriters with originality and promise in work.

Rural Outreach Program

* Objective is to build ICT literacy in the rural areas
  * – One stop ICT community centre
* Emphasize the use of ICT to improve ICT literacy in rural areas and develop IT entrepreneurs into self sustainable businesses which serve the rural community
  * – ICT training courses
* narrow the ICT digital divide that exist in the rural areas.

Accredited Businesses

- AITI introduced **AAB** and **ICTAB**

  - AAB is accreditation scheme of ICT Businesses. Holders of AAB able to apply AITI industry development benefits.
  - ICTAB is a classification of ICT Businesses in accordance to their financial capacity, local ownership and local ICT skilled manpower.

Thank You.
Terima Kasih.