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附件一 聖彼得堡宣言(SAINT PETERSBURG DECLARATION)

SAINT PETERSBURG DECLARATION

"Building Confidence and Security in the Use of ICT to Promote Economic Growth and Prosperity"

「建立使用資通訊科技的信心與安全，以促進經濟成長與繁榮」

1. We, APEC Ministers responsible for the Telecommunications and Information Industry, gathered in St. Petersburg, Russia, from 7-8 August 2012 for a meeting with the theme "Building Confidence and Security in the Use of ICT to Promote Economic Growth and prosperity".

   我們身為負責電信與資訊產業的 APEC 部長們，於 2012 年 8 月 7 日至 8 日聚集在俄羅斯聖彼得堡，參加以「建立以資訊與通訊科技促進經濟成長與繁榮之信心與安全」為主題之會議。

2. We welcome the 2011 APEC Economic Leaders' Declaration "Toward a Seamless Regional Economy", where the APEC Leaders affirmed that our region is now the vanguard for global growth, a status that we have achieved through steady commitment to the APEC mission of regional economic integration and to the Bogor Goals of free and open trade and investment.

   我們歡迎，2011 年 APEC 經濟領袖在火奴魯魯採取之「邁向無縫隙之區域經濟」宣言，APEC 領袖們申明，透過對 APEC 區域經濟整合任務及對茂物自由開放貿易投資目標之堅定承諾，將使本區域目前為全球成長的先鋒。

3. We note that further liberalization of trade and investment activities in the Asia Pacific Region and the strengthening of regional economic integration remain the key common goals of APEC towards achieving regional prosperity, stability and sustainable growth.

   我們注意到，亞太地區進一步的貿易投資活動自由化以及強化區域經濟整合，仍是 APEC 朝向區域繁榮、穩定與永續成長之主要共同目標。

4. We welcome the APEC Economic Leaders' commitment to implement the APEC Cross Boarder Privacy Rules to reduce barriers to information flows and enhance consumer privacy, and promote interoperability across regional data privacy regimes. All stakeholders in the APEC region should cooperate to promote network integrity and resilience; consider existing and potential threats to information and communication technologies (ICT); and take measures to improve ICT security.

   我們歡迎 APEC 經濟領袖的承諾，即透過落實 APEC 跨境資料隱私規則(APEC Cross Boarder Privacy Rules)，降低資訊流障礙並強化消費者隱私，同時促進區域資料隱私規範的相容互通性。APEC 區域內的利益關係者，包括政府、產業與民間

團體，應合作促使網路整合性及彈性，同時，應考量資通訊技術(ICT)之既有與潛在可能威脅，並採取相應措施以增進 ICT 安全。

5. We reaffirm that widespread access and use of modern ICT such as broadband infrastructure and applications, remain the crucial driver for further integration in the APEC region and are closely related to bridging the digital divide and the provision of broadband, which are imperative steps for businesses and consumers to establish relationships. This will lead to greater potential in commercial and economic activities as well as establishing reliable and efficient supply chains.

我們重申，廣泛接取及近用諸如寬頻基礎建設與運用之現代資通訊技術（ICT），仍為 APEC 區域進一步整合之重要性驅動力，且與縮減數位落差及寬頻之提供緊密相關，這些是朝向建立企業對消費者關係之重要步驟。此將帶動商業與貿易活動之更大潛力，同時建立可信賴及有效率的供應鍊。

6. We appreciate the important progress made by the Telecommunications and Information Working Group (TEL) towards achieving the above-mentioned goals and objectives through its activities, including the sharing of regulatory frameworks and best practices, improving awareness and education on cyber security and cyber safety, submarine cable protection, security of the mobile environment and international mobile roaming issues. We encourage TEL's efforts to continue its work on emerging cyber security and safety issues.

我們感謝電信暨資訊工作小組（以下簡稱 TEL）為促成前述目標與目的，透過其活動所達成的重要進展，包括分享法規架構與最佳實務、促進網路安全意識及教育、行動環境安全及國際行動漫遊議題。我們鼓勵 TEL 持續努力以因應確保網路安全之議題。

7. We acknowledge that the development of the ubiquitous network society built on advances in ICT will provide social and economic benefits to the Asia-Pacific region. Concerted efforts from all stakeholders will contribute to the continued development of this society.

我們認知到，基於先進資通訊技術之無所不在的網路社會發展，將提供亞太區域之社會與經濟利益。所有利害關係人的協同努力，將有助於發展無所不在的網路社會。

8. We acknowledge the importance of the continuing development of the Asia-Pacific Information Society (APIS) to facilitate the implementation of internationally harmonized goals in the field of social and economic development.

我們認知到，亞太資訊社會（Asia-Pacific Information Society , APIS）持續發展之重要性，以促使在社會及經濟發展國際一致目標的落實。

9. We reaffirm the necessity of multi-stakeholder cooperation to expand and strengthen the Asia-Pacific Information Infrastructure (APII) and to build confidence and security in the use of ICT. This confidence will help to encourage

greater uptake of ICT, which will promote economic growth and prosperity in the region. We will facilitate further interaction among academic institutions, research centers and such companies, including cooperation in the field of enhancing human potential for the benefit of people in the APEC region.

我們重申，多重利害關係人(multi-stakeholder)之間的合作必要性，對於擴展及強化亞太資訊基礎建設（Asia-Pacific Information Infrastructure, APII）並建立對 ICT 使用的信心與安全。此信心將有助於鼓勵大量採用可促進區域經濟與繁榮之 ICT。我們將促使學術機構、大學、研究中心與產業之間的進一步互動，包括在提升人類潛力領域之合作，以有利於亞太區域人民。

10. We note the importance of the work of other relevant international fora and regional bodies, including the International Telecommunication Union (ITU), Asia-Pacific Telecommunity (APT) and Organization for Economic Cooperation and Development (OECD) to the work of TEL. We also note the need for TEL to consider the synergies and linkages of the work of these bodies with that of TEL.

我們注意到，其他相關國際論壇及區域團體與 TEL 相關之工作，包括國際電信聯合會(ITU)亞太電信組織(APT)及經濟合作及發展組織(OECD)。

In this context we encourage APEC economies to recognize the importance and significance of the upcoming overall review of World Summit on the Information Society (WSIS) outcomes, which will seek to identify emerging trends and a vision beyond 2015 (WSIS+10).

有鑒於此，我們鼓勵 APEC 經濟體認知到資訊社會世界高峰會（WSIS）設定 2015 年為目標年，以進行整體成果檢視之重要性，WSIS 並將尋求對於創新趨勢及 2015 年後願景（WSIS+10）的認同。

11. We acknowledge the increased contribution of the ICT industry toward ensuring human safety, food and energy security, as well as providing practical solutions for a broad spectrum of global challenges related to green growth and emergency situations, which are of special significance to our region.
我們認知到，電信或資通訊產業，對於確保人類安全、食物與能源確保之貢獻日益增加，同時對於綠色成長及緊急狀況，此類全球特別重要之廣泛挑戰，將可提供實際的解決方案。

12. We welcome the APEC TEL Chair's Report and commend TEL's efforts in implementing the APEC TEL Strategic Action Plan 2010-2015. Moving forward, we urge TEL to advance its work focusing in the following areas:
我們歡迎，APEC TEL 主席的報告，並委託 TEL 致力落實 APEC TEL 的 2010 至 2015 年策略計畫：展望未來，我們驅策 TEL 進一步著重於下列領域之工作：

Developing ICT to Promote New Growth

發展資通訊技術，以促進創新成長

13. We acknowledge the efforts made by member economies to develop ICT infrastructure. We reaffirm the goal of achieving universal access to broadband by

2015, as stated in the Bangkok Declaration, 2008. We encourage member economies to work towards achieving affordable access to quality broadband in the APEC region by 2015.

我們認知到，APEC 經濟體對於發展 ICT 基礎建設所做的努力。我們重申 2008 年曼谷宣言提及於 2015 年前達成 APEC 區域寬頻普及接取之目標。我們鼓勵會員經濟體致力於 2015 年前達成 APEC 區域可負擔的優質寬頻接取。

14. We call upon TEL to continue its activities towards achieving access to the next generation high-speed broadband networks and services by 2020, as stated in the 2010 Okinawa Declaration, to further enhance the growth of knowledge-based economies in the APEC region.

我們呼籲TEL繼續依其2010年沖繩宣言宣示之目標，於2020年以前達成次世代高速寬頻網路接取與服務之活動，以進一步提昇APEC區域之知識經濟發展。

15. We note that the rapid introduction of broadband to unserved and underserved areas will be a key factor for bridging the digital divide, and in order to meet the goal in the region, greater efforts are essential to develop and use both fixed and mobile broadband infrastructure as well as its technologies.

我們認知到，偏鄉無服務地區快速引進寬頻，是縮減數位落差的關鍵因素。同時，為達成我們在此區域之目標，有必要更努力發展及使用有線、行動寬頻基礎建設及其技術。

16. Given the rapid growth of both fixed and mobile communication devices requiring unique Internet addresses in all APEC economies. We welcomes TEL's continuous efforts to progress transition to IPv6, as expressed in the TEL IPv6 Guidelines. We encourage TEL to cooperate with all stakeholders to achieve this goal.

由於 APEC 經濟體內固定及行動通訊裝置的快速發展，需要有特定的網際網路位址，我們歡迎，TEL 繼續依「*TEL 第 6 代網路協定*(IPv6)綱領(TEL IPv6 Guidelines)」努力進行 IPv6 轉換，我們並鼓勵 TEL 與所有利害關係者合作以達成上述目標。

17. We acknowledge the efforts to promote and enhance cooperation in the field of ICT with a view to further enhancing the development and adoption of ICT in the APEC region.

我們認知到，應努力促進並強化在 ICT 領域之合作，以進一步提升 ICT 在 APEC 區域之發展與施行。

18. We also recognize that ICT skills and training provide the foundation for human resource development and sustainable growth in ICT in the APEC region, and encourage new initiatives to improve ICT skills and to provide training programs.
我們也認知到，增加 ICT 技術與訓練，是 APEC 區域人力資源發展與永續成長之基礎，同時我們鼓勵對於增進 ICT 技術及提供訓練計畫的新倡議。

Enhancing Socio-Economic Activities through the Use of ICT 應用資通訊技術以促進社會經濟活動

19. We recognize the significance of ensuring full participation in the digital economy for people with special needs, and we encourage TEL to continue implementing and developing the strategies to make ICT more accessible to all.

我們認知到，確保有特殊需求的人們充分參與數位經濟之重要性，而且我們鼓勵 TEL 繼續發展及執行讓所有人們更容易接取到 ICT 之策略。

20. We call on TEL to encourage economies to share best practices in ICT, including e-Government, e-Business, e-Health and other ICT applications, to help address economic, social, technical and other problems as we progress towards achieving the APEC goals.

當我們邁向達成 APEC 目標時，我們呼籲 TEL 鼓勵經濟體分享資通訊技術最佳實務，包括電子化政府(e-Government)、電子商務(e-Business)、電子化醫療(e-Health)以及其他資通訊技術應用。

We encourage openness as well as new initiatives and projects in promoting ICT applications, with contributions of all stakeholders.

為推廣資通訊應用，我們鼓勵開放性(openness) 以及所有利益關係者致力於推廣 ICT 應用之新倡議。

21. Recalling the Leaders' Declaration 2007 on global environmental challenges, we note the importance of ICT for addressing global issues, including the scarcity of energy and other resources, and environmental degradation.
呼應 2007 年領袖對於全球環境挑戰宣言，我們注意到，在解決全球議題，包括能源及其他資源缺乏以及環境惡化，資通訊技術扮演之重要性。

We acknowledge the potential of ICT in improving energy efficiency and recommend that TEL continues its efforts to share ICT best practices to achieve a better environment.

我們認知到，ICT 用於改善能源效率之潛力，並建議 TEL 繼續努力分享 ICT 之最佳實務，以達成一個更好的環境。

22. We acknowledge that frequent natural disasters such as typhoons, earthquakes and tsunamis, cause severe damage to member economies. ICT plays a vital role in early warning, relief, rescue and disaster mitigation as well as reconstruction efforts.

我們認知到，頻繁的天然災害例如颱風、地震與海嘯造成會員經濟體嚴重損害。ICT 在提前警告、救濟、救援與災害降低以及重建努力等方面，扮演重要角色。

We encourage the cooperation of member economies to improve disaster response and recovery through the development of ICT and promotion of

appropriate systems and technologies, including cloud computing and sensor networks.

我們鼓勵會員經濟體合作，透過ICT之發展及推廣適當系統與技術，例如雲端運算及感知網路，以改善災害反應與復原能力。

We welcome the initial steps taken by TEL to discuss a new paradigm for people rescue in cases of any disasters and emergencies. We support the goal of increasing human safety through the use of ICT.

我們歡迎，TEL針對天然災害及緊急狀況時之人類救援所採取的新範例進行初步討論。我們支持，透過使用ICT以增加人類安全的目標。

Promoting safe and trusted ICT environment促進安全可信賴之資通訊技術環境

23. We promote the efforts of APEC economies to expand ICT literacy and help ensure that everyone has the skills, ability, and access to benefit fully from the information economy.

我們提倡，APEC 經濟體致力擴展 ICT 知識及幫助確保每個人擁有能夠完全從資訊經濟受益之技巧、能力與管道。

24. We are aware of the growing dependence of our society on ICT, as well as possible serious social and economic consequences following the use of ICT for criminal and other malicious purposes.

我們注意到，社會對 ICT 的依賴增加，以及將 ICT 用於犯罪或不當用途後，可能導致嚴重社會與經濟後果。

For economies to continue to enjoy the benefits of ICT use, practical cooperation is needed to ensure a safe and secure ICT environment, sharing best practices, information sharing, technical cooperation, training and education. Increasing users' trust in information and communication services will allow ICT to further contribute to sustainable growth in the APEC region.

為確保經濟體可以持續享有 ICT 運用的效益，需要透過務實合作，以確保基礎建設之完整、安全與堅實的 ICT 環境，包括利用最佳實務及資訊的分享，暨訓練及教育計畫。增加用戶對於 ICT 服務的信任，將使得 ICT 更有助於 APEC 區域之永續成長。

25. We encourage APEC economies to recognize our shared responsibility in addressing ICT security issues and combating cybercrime. We reinforce the need for economies to continue to work together towards ensuring a trusted, secure and sustainable online environment in partnership with multiple stakeholders, including international organizations and private sector.

為解決資通訊技術安全議題與打擊電腦犯罪，我們鼓勵 APEC 經濟體認知其共同責任。我們強調經濟體需要持續協力，於確保受信任、安全與永續上網環境，包括與國際組織及私部門等多個利益相關者協力合作。

We support the TEL's efforts to increase cyber security collaboration and capacity building. We commend the work of TEL to build capacity to address cybercrime, foster cooperation among cyber-incident response teams, and effectively share information between member economies. We affirm the TEL's efforts to raise cyber security awareness and seek to strengthen these efforts through cooperative activities such as APEC Cyber security Awareness Day.

我們支持，TEL 致力於增加網路安全之合作及能力建構。我們讚揚，TEL 於解決網路犯罪能力建構、增進資安攻擊因應團隊，以及有效分享會員間體的知識。我們肯定，TEL 對於提升資安意識所作的努力，包括透過 APEC 資安意識日等協力合作活動。

26. We believe it possible and necessary to be more active in promoting trusted electronic environments globally by encouraging secure cross-border flows of information, including electronic documents. This would provide for member economies to experience greater economic growth and prosperity. We also encourage TEL to explore future initiatives and projects that may assist APEC economies to meet these goals.

我們相信，有可能且有必要更主動提倡安全跨境資訊交流，包括電子文件，以提供 APEC 經濟體更佳的經濟成長及繁榮。我們也鼓勵 TEL 探討進一步的嘗試及計畫，以協助 APEC 經濟體達成上述目標。

27. We reaffirm the importance of a trusted environment to allow greater interaction among governments businesses and consumers, as well as between individuals.

我們重申，受信任環境之重要性，以使得政府與公民、企業與企業、企業與消費者之間以及自然人之間更多互動。

28. We emphasize the need to protect consumers and therefore call upon all member economies to enhance mutual cooperation to increase protection of ICT and infrastructure services.

我們強調保護消費者之必要性，因此，我們要求所有 APEC 經濟體強化相互合作，以增加 ICT 與基礎建設服務之保護。

29. We acknowledge that vulnerable groups, especially children and young people are particularly susceptible to threats in an online environment. Therefore, we call upon each economy to implement, as a matter of priority, strategies to counteract these threats, including the promotion of cyber safety and cyber security education and awareness for children, young people and their parents with a view to encouraging appropriate online behavior.

我們認知到，弱勢團體特別是兒童與少年，極為容易在網路的環境受到威脅。因此，我們呼籲，APEC 經濟體優先執行對抗這些威脅的策略，包括推廣兒童、少年網路安全的資安意識，及適當鼓勵其父母關注其線上行為。

We also recommend that economies continue to cooperate to protect children online, and that TEL collaborate with other relevant international organizations, particularly the OECD and acknowledge the efforts of the ITU and others in this area.

我們也建議，會員經濟體繼續於兒少上網議題合作，以及與其他相關國際組織密切合作，例如經濟合作暨發展組織（OECD）與國際電訊聯盟（ITU）及其他相關組織。

Promoting Regional Economic Integration
促進區域經濟整合

30. We acknowledge that, in line with the Bogor Goals, TEL continues to support open and free trade and investment in ICT. We support TEL's efforts in enhancing cooperation in the region through the exchange of information on policies to facilitate the development of free and open trade and investment in the APEC region. We encourage members to actively exchange knowledge and experience to promote competition and investments in the market.

我們認知到，為呼應茂物目標，TEL 將繼續支持 ICT 方面之開放自由貿易投資。我們支持 TEL 在透過交換政策資訊提升區域合作方面的努力，以促進發展 APEC 區域之開放與公平競爭市場。我們鼓勵會員經濟體主動交換知識與經驗，以促使規範措施之現代化，可促進市場之競爭與投資。

31. We support continued efforts of the member economies towards reducing international mobile roaming costs, which will provide benefits to consumers and businesses, as well as promote economic integration across the region.

我們支持 APEC 經濟體對於降低國際行動漫遊費用持續努力，此將有利於消費者、產業，同時將促進區域經濟整合。

32. We note that the implementation of the Mutual Recognition Arrangement for Conformity Assessment of Telecommunication Equipment (MRA-CA) and the Mutual Recognition Arrangement for Equivalence of Technical Requirements (MRA-ETR), amongst others, will contribute to increased trade in telecommunications equipment within the APEC region. We encourage member economies, where feasible within their regulatory and policy framework, to implement both the MRA-CA and MRA-ETR.

我們注意到，實施電信設備相互承認之符合性評鑑(MRA-CA)及等同性技術規範(MRA-ETR)等方式，將有助於 APEC 區域逐漸增加之電信設備貿易。我們鼓勵會員經濟體，在其規管及政策架構可行條件下，實施 MRA-CA 及 MRA-ETR。

33. We encourage economies to continue sharing experiences and best practices, in particular those relating to the use of ICT to improve regional economic cooperation in areas like healthcare, education, energy, environment, the control of emergency situations and government service delivery.

我們鼓勵，各經濟體持續分享經驗及最佳實務，特別是在 ICT 使用方面，以增進於健康照護、教育、能源、環境與緊急狀況控制，以及政府服務等方面之區域經濟合作。

Strengthening cooperation in the ICT sector
加強資通訊部門合作

34. We recognize that the digital divide in the APEC region remains a challenge for the society to reap the full benefits arising from ICT. We therefore encourage TEL to give priority to ensuring access to information through the development of infrastructure and promoting citizens capabilities for improved ICT usage.

我們認知到，為使社會完全獲得 ICT 的成果，APEC 區域的數位落差仍是一項挑戰。因此，我們鼓勵 TEL 優先著重於發展基礎建設，以確保資訊接取公民的 ICT 使用能力。

35. We recommend the TEL continue its close cooperation with other APEC fora and increase coordination of activities relating to ICT. We also recommend that TEL collaborate with other international fora, such as the ITU, APT, and OECD as well as the technical and administrative bodies linked to the Internet to take advantage of synergies and eliminate duplication of effort.

我們建議，TEL 繼續與其他 APEC 論壇密切合作，並增加有關 ICT 之活動協調。我們亦建議，TEL 與其他國際論壇合作，例如 ITU、亞太地區電信與 OECD，以及連結網際網路之科技與行政組織，以獲得合作的好處並避免工作重複。

Moving forward
未來方向

36. We agree to present this Declaration to the 20th Summit of APEC Economic Leaders' Meeting and the 24th APEC Ministerial Meeting in Vladivostok, Russia, September 2012.

我們同意，將本宣言於 2012 年 9 月在俄羅斯海參威舉行之第 20 屆 APEC 領袖高峰會，以及第 24 屆 APEC 經濟體部長級會議中提出。

37. We request the TEL to report on the implementation of this Declaration at the next APEC TELMIN.

我們要求 TEL 於下次 APEC TELMIN 會議報告本宣言之執行情形。

附件 2

APEC TEL Strategic Action Plan: 2010-2015

Introduction

Since APEC's inception, Leaders and Ministers have recognized the important role that ICT plays in fostering economic growth and in achieving the overarching APEC objectives of trade and investment liberalization, business facilitation and, economic and technical cooperation.

To achieve these objectives, APEC TEL will focus on the following five priorities:

- Develop ICT to Promote New Growth
- Enhance Socio-Economic Activities through the Use of ICT
- Promote a Safe and Trusted ICT Environment
- Promote Regional Economic Integration;
- Strengthen Cooperation in the ICT Sector

The following actions outline how APEC TEL will contribute to the APEC objectives and TEL priorities during the 2010-2015 timeframe.

附件二 **APEC TEL 2010 年至 2015 年策略行動計畫**

APEC TEL STRATEGIC ACTION PLAN

1. Develop ICT to Promote New Growth

APEC TEL Key Areas for Action for 2010-2015
Universal access by 2015 Expand networks to achieve universal and affordable access to broadband in all APEC economies by 2015.
Next generation high-speed broadband access by 2020 Continue the activities achieving the next generation high-speed broadband access by 2020.
Strategies to assist developing economies Identify and disseminate strategies to assist developing economies to deploy broadband networks.
ICT availability to people with special needs Encourage economies to develop and implement strategies to make ICT more accessible to people with special needs.
Regional deployment of IPv6 Promote public and private sector adoption of IPv6 infrastructure through information sharing and technological collaboration. Develop and promote guidelines to assist economies to effectively transition to IPv6.
Infrastructure sharing Provide a platform for information exchange and the development of best practice approaches for efficient infrastructure sharing within economies.

2. Enhance Socio-Economic Activities through the Use of ICT

APEC TEL Key Areas for Action for 2010-2015
Development of innovative technologies and services Share information and promote cooperation among economies to facilitate the introduction of advanced and emerging technologies and services such as cloud computing and grid computing.
Smart grids and sensor networks Develop and promote ICT applications such as smart and resilient grids and sensor networks to seek outcomes including: enhancing economic efficiency and growth; and environmental benefits.
ICT applications to drive socio-economic activities Share best practices for ICT applications, such as developing and promoting best practices for public and private sectors to implement Green ICT; enhancing the effectiveness of disaster response and recovery by strengthening disaster management networks; developing and promoting best practices for using ICT to more efficiently deliver services online including e-Business, e-Health, e-Education, and e- Government; and implementing demonstration projects.

3. Promote a Safe and Trusted ICT Environment

APEC TEL Key Areas for Action for 2010-2015
Safe and trusted ICT environment Promote the development and dissemination of strategies for fostering a safe and trusted ICT environment, with a particular focus on networked systems and information for consumers, businesses and governments.
Cyber security capacity building Promote the development of effective cyber security initiatives, in accordance with the *APEC Cybersecurity Strategy* and the *APEC Strategy to Ensure Trusted, Secure and Sustainable Online Environment*, including through distribution of best practice approaches, information sharing, technical cooperation, training and education.
Raising cyber security awareness Promote and build capacity to implement effective cyber security awareness initiatives, and integrate these into broader APEC activities where possible. In particular, economies will aim to collaborate by holding an annual APEC Cyber Security Awareness Day.
Cyber security initiatives with industry Collaborate with all relevant stakeholders, including the Internet technical community, Internet Service Providers, telecom operators, and cyber response teams to develop options for effective cyber security initiatives against cyber threats.
Safe and secure online environments for vulnerable groups Share information and promote policies for the protection of vulnerable groups, particularly children, from online threats. For example, by implementing capacity building initiatives that may assist economies in the efforts of ensuring a safe and secure online environment.
Internet economy Continue to foster a safe and secure online environment by addressing emerging cybersecurity and cyber safety issues, enabling economies to take full advantage of the benefits offered by the Internet economy.

4. Promote Regional Economic Integration

APEC TEL Key Areas for Action for 2010-2015
Free and open trade and investment Develop ICT policy and regulatory frameworks that facilitate free and open trade arrangements within the APEC region.
Technical conformity assessments and equivalence of technical requirements Increase economies' participation in the Mutual Recognition Arrangement (MRA) for conformity assessment and implement the MRA for equivalence of technical requirements.
International mobile costs Provide capacity building for APEC policy makers and regulators to promote competition and transparency in areas such as interconnection and international mobile roaming markets. Encourage deployment of infrastructure and mechanisms to reduce excessive costs of interconnectivity, including through increasing industry competition by promoting free and open trade and investment.
Consumer awareness Improve consumer awareness of communications complaint handling mechanisms, service prices and substitute technologies through the publication of reports and other awareness raising activities.
Peer learning Encourage economies to actively participate in TEL projects and exchange knowledge and experience to facilitate streamlined regulatory measures that encourage competition and investment in the market
Submarine cable protection Enhance submarine cable protection by consolidating and disseminating information that will reduce the incidence of disruption and expedite submarine cable repairs

APEC TEL Key Areas for Action for 2010-2015
Access to information Promote access to information through the development of infrastructure and promoting capabilities for improved ICT usage.
Collaboration within APEC Enhance coordination of ICT related activities within APEC, including with: the Committee on Trade and Investment to strengthen and contribute to regional economic integration, for example through contributions to the APEC Supply Chain Connectivity Framework, and promote free and open trade and investment, by identifying how ICT can enhance trade logistics.; the Electronic Commerce Steering Group and the Counter Terrorism Taskforce to promote a trusted ICT environment; the Health Working Group to identify effective e-Health applications; and the Emergency Preparedness Working Group to promote the benefits of using
Collaboration outside APEC Enhance outcomes by collaborating with relevant multilateral organisations and Internet-related technical and administrative bodies on issues such as: developing, implementing and promoting relevant cyber security initiatives; reducing international communication costs; and addressing relevant environmental challenges.

附件三 Review and Follow-up of APEC TEL Strategic Action Plan 2010-2015

APEC Telecommunications and Information Working Group
Review and Follow-up of APEC TEL Strategic Action Plan 2010-2015

Pillars of Okinawa Declaration	TEL Strategic Action Plan (Key Areas)	TEL's activities and report for TELMIN9	Economy	Steering Group
1. Develop ICT to Promote New Growth	Universal Broadband Access by 2015	'Workshop on Infrastructure Sharing to Foster Broadband' was held at TEL43.	China Hong Kong, China; Viet Nam; Philippines; Canada; Singapore; Malaysia and Chinese Taipei	DSG/LSG
		Industry Roundtable on the topic of Digital Divide at TEL 45	Viet Nam and INTUG	LSG
	Strategies to assist developing economies	Information sharing on regulatory frameworks and policy developments at LSG at TEL44 and 45.		LSG
	Enhancing broadband development and internet usages for improving networks and services in APEC member economies	Develop a study aimed to encourage broadband-based services usage in the region and identifying best practices of Internet as a tool for strengthening development and governability in the region. Study was presented in TEL 44	Peru,Mexico,USA	DSG
	ICT availability to people with special needs	An APEC fund project 'ICT Applications for People with Special Needs' was approved by BMC at 2011 Session2, and 'Workshop	Japan, Singapore, Thailand, Vietnam, USA, China, Peru,	DSG

		on ICT Applications for People with Special Needs' was held at TEL45 and continue to have workshop in Tokyo in September 2012	Indonesia, Korea Philippines, Russia,Chinese Taipei, Australia, Canada,	
	Regional deployment of IPv6	Workshop on IPv6: Securing sustainable growth of the Internet at TEL 42	USA, Japan, Brunei, Canada,Singapore	DSG
	Infrastructure sharing	'Workshop on Infrastructure Sharing to Foster Broadband' was held at TEL43.	China Hong Kong, China; Viet Nam; Philippines; Canada; Singapore; Malaysia and Chinese Taipei	DSG/LSG
2. Enhance Socio-Economic Activities through the Use of ICT	Development of innovative technologies and services	The topic of Industry Roundtable at TEL43		LSG
	Smart grids and sensor networks	An APEC fund project 'Application of ubiquitous Information and Communications Technologies (ICT) for customised management in emergency situations was approved by BMC at 2011 Session3, and one workshop was held at TEL45.and another workshop in TEL 46	Russia, Japan, Singapore, Chinese Taipei, Viet Nam	DSG
	ICT applications to drive socio-economic	'Disaster Management Seminar' was held at TEL44.	Japan, Viet Nam	DSG

	activities	'Study Workshop on Best `Practice Transfer of Green ICT for Sustainable Growth' was held at TEL44 and final report in TEL 45.	Thailand , Brunei Darussalam, Canada, Japan, New Zealand, Philippines, Chinese Taipei, Viet Nam	DSG
3. Promote Safe and Trusted ICT Environment	Safe and trusted ICT environment	'Workshop on Cybersecurity Policy Development in the APEC Region' was held at TEL43 and SPSG continues discussion on cybersecurity policy developments.	USA	SPSG
		'DNS SEC Workshop' was held at TEL44.	Malaysia, Thailand	SPSG
		APEC TEL recognition of OECD's "Principles for Internet Policy-Making"		SPSG
		Workshop on Security of Mobile Devices at TEL45 and development of report on the topic.	Malaysia	SPSG
		SPSG collaborates with the OECD WPISP and the AP-CERT to support building a safe and trusted ICT environment		SPSG
		Comparing Approaches to Botnet Prevention, Identification, and Mitigation	US, Thailand , Japan	SPSG
	Cyber security capacity building	'DNSSEC Training Session' was held in September 2011 in KL just prior to TEL44.	Malaysia, Thailand	SPSG

		Cybercrime Experts Group Meeting established and training sessions held at TEL44 and TEL45 and planned for TEL 47.	US, Thailand	SPSG
		Seminar on CSIRT Capacity Building and Collaboration held at TEL45. SPSG continued discussion on cybersecurity indicators together with the OECD and APEC TEL.	US	SPSG
	Raising cyber security awareness	TEL established an annual APEC Cyber Security Awareness Day on 29th October. SPSG has a standing agenda item to discuss best practices for cybersecurity awareness raising and cooperation.	Japan Korea United States	SPSG
		TEL held a poster exhibition during TELMIN8 in Okinawa, Japan. SPSG plans to distribute cybersecurity awareness materials during TELMIN9 in St. Petersburg, Russia.		SPSG
		APEC Training Program for Preventative Education on ICT Misuse – ongoing project within the SPSG currently on its fourth pilot.	Korea, Thailand	SPSG
		APEC TEL recognition of the OECD "Recommendation of the Council on the Protection of Children Online"		SPSG

	Cyber security initiatives with industry	Most SPSG workshops and activities include participation from industry including the Workshop on Security of Mobile Devices, CSIRT Capacity Building Cooperation, DNS Sec workshop, and others.		SPSG
		Workshop on Security of Mobile Devices at TEL45 and development of report on the topic.	Malaysia	SPSG
	Safe and secure online environments for vulnerable groups	An APEC fund project 'ICT Applications for People with Special Needs' was approved by BMC at 2011 Session2	Japan, Singapore, Thailand, Vietnam, USA, China, Indonesia, Philippines, Peru, Russia, Chinese Taipei, Australia, Canada, Korea	DSG
		Regulatory Roundtable on the topic of Social Media at TEL 44	Malaysia	LSG/SPSG
	Internet economy	Information sharing on cybersecurity at TEL43		SPSG
		SPSG efforts mentioned above support this objective.		SPSG
		SPSG collaborates with the OECD WPISP and the AP-CERT to support		SPSG
4. Promote Regional Economic Integratio	Free and open trade and investment	Workshop on Telecom Competition Policy in APEC Economies was held at TEL 45.	Singapore, Hong Kong (China), Japan, Malaysia,	LSG

n			Chinese Taipei and INTUG	
		Regulatory Roundtable on the topic of Mobile Number Portability at TEL 45	Vietnam and INTUG	LSG
		Information sharing on domestic regulations and FTA policies at LSG at TEL 43		LSG
		Information sharing on net neutrality approaches in the APEC region at TEL 46.		LSG
		Information sharing on public-private partnership frameworks in the APEC region at TEL 46.		LSG
	Technical conformity assessments and equivalence of technical requirements	MRA Task Force has discussed MRA issue and has drafting session at every TEL meeting.	Brunei, Canada, Hong Kong (China), China, Japan, Korea, Malaysia, Chinese Taipei, Thailand, USA and Vietnam	MRA TF (LSG)
		Finalized Guideline for MRA of Equivalence of Technical Requirements Implementation		
		Fostered MRA of Conformity Assessment amongst economies		
		Shared experiences in Market Surveillance practices		
	International mobile costs	'Workshop on Progress on International Mobile Roaming' was held at TEL43.	Australia	LSG
	Consumer awareness	Workshop on Enhancing Consumer Protection in Telecom Services in TEL44	Singapore, Hong Kong (China),	LSG

			Malaysia, Japan, Chinese Taipei, and China	
	Peer learning	'Study Workshop on Best `Practice Transfer of Green ICT for Sustainable Growth' was held at TEL44. and final report in TEL 45	Thailand , Brunei Darussalam, Canada, Japan, New Zealand, Philippines, Chinese Taipei, Viet Nam	DSG
	Submarine cable protection	Final report of 'Submarine Cable Information Sharing Project' was submitted after TEL44.	Australia	SPSG
5. Strengthen Cooperation in the ICT Sector	Collaboration within APEC	Cooperation with CTI on Submarine Cable Protection.	Australia	SPSG
	Collaboration outside APEC	close cooperation with OECD for Tokyo Workshop on " ICT Applications for special needs people"(September10-12,2012) for policy-makers and experts for knowledge exchange on innovative development for assistive info-communication technologies and applications for elderly and disabled people. Workshop in TEL 45 and continue to have workshop in Tokyo in September 2012	Japan, Singapore Australia, Canada, China, Indonesia, Peru, Philippines, Russia, Chinese Taipei. Thailand, USA,Vietnam	DSG

附件 4

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PLEN/E

Agenda item: Plenary

Submitted by: Chinese Taipei

Chinese Taipei's Regulatory Update

APEC Telecommunications and Information Working Group

46th Meeting |30July to 3 August2012Saint Petersburg, Russia

Please note: This document is not an official APEC document until approved by the Telecommunications and Information Working Group. This version is a draft provided for discussion purposes only.

亞太經濟合作（**APEC**）

電信暨資訊工作小組第 **46** 次會議（**TEL46**）

監理政策更新**(Renewal of Regulatory Policy)**

中華臺北**(Chinese Taipei)**

I. 通訊市場動態

(Status of Communications Market)

i. 行動上網用戶數觀測

(Mobile Internet Subscriptions)

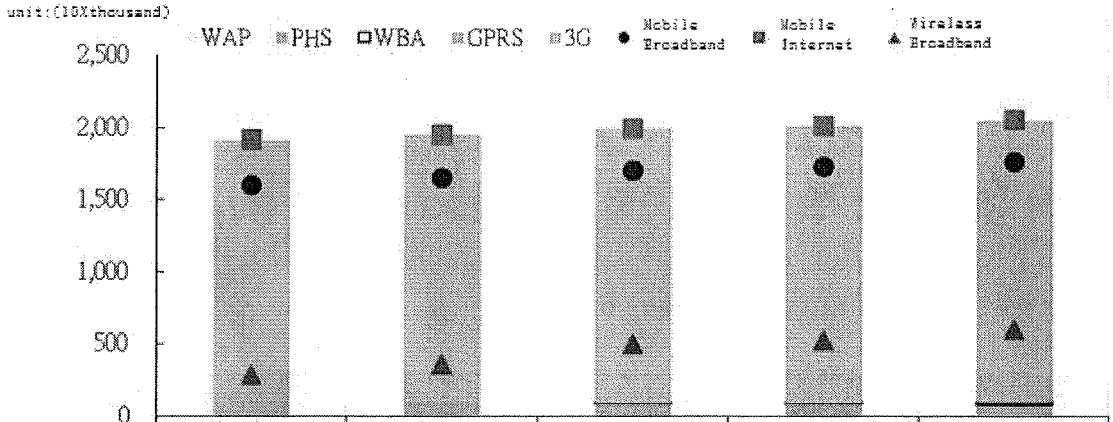
2011 年第 3 季我國行動電話門號數達 2,861 萬戶（平均每百居民擁有 123.3 個門號），較前一季增加 32 萬，而前一年同期行動電話門號總數為 2,753 萬戶（平均每百居民有 118.9 個門號），一年間成長 108 萬戶。根據 NCC 資料，2011 年第 3 季我國 2G 門號數降至 743 萬戶，PHS 門號數降至 83 萬，3G 門號數則成長至 2,035 萬戶，占行動電話門號總數的 71.1%。而前一年同期 3G 門號數為 1,807 萬戶，占行動電話門號總數的 65.6%。

In the third quarter of 2011, the total mobile phone numbers reached 28.61 million (123.3 mobile phone numbers per 100 residents), which was 32,000 more than the previous quarter. Compared to the same quarter in 2010, the total mobile phone numbers were then 27.53 million (118.9 mobile phone numbers per 100 residents). The data above showed a growth of 1.08 million mobile phone numbers in one year. According to the National Communications Commission (NCC), in the third quarter of 2011, 2G mobile phone numbers declined to 7.43 million and PHS mobile phone numbers dropped to 83,000, while 3G mobile phone numbers soared to 20.35 million, which accounted for 71.1% of the total mobile phone numbers. In the same quarter of the previous year, the total mobile phone numbers were 18.07 million, which accounted for 65.6% of the total mobile phone numbers.

2011 年第 3 季在我國行動電話門號中，71.2%有開通行動數據服務，亦即我國可行動上網的門號有 2,036 萬個。在可行動上網門號中，3G 占 86.0%，達 1,750 萬。行動上網門號數加上無線寬頻接取（WBA）（WiMAX）帳號數後，總計我國行動上網帳號數達 2,049 萬。在我國行動上網帳號中，寬頻占 86.0%，達 1,762 萬。在開通行動數據服務的 1,750 萬 3G 門號中，33.6%在最後 1 個月內實際有使用上網服務，此比例值創新高，並持續提升中。實際有使用上網服務的 3G 門號數加上 PWLAN 和 WiMAX 帳號數，總計我國無線寬頻帳號數達 606 萬，較前一季增加 81 萬。

Among the mobile phone numbers in the third quarter of 2011, 71.2% of which had mobile data service functionality, which equates to 20.36 million mobile phone numbers with Internet access. Among the mobile phone numbers with Internet access, 3G mobile phone numbers accounted for 86.0% (17.5 million). The mobile phone numbers with Internet access, combined with the wireless broadband accounts from WBA and WiMAX, meant that total mobile Internet accounts

reached 20.49 million. Among the mobile Internet accounts, wireless broadband accounts accounted for 86.0% (17.62 million). Among the 17.5 million 3G mobile phone numbers with mobile data service, 33.6% of which used Internet service in the last month of the third quarter. The rate was significantly high, and has been growing steadily. The 3G mobile phone numbers which used Internet service and the accounts of PWLAN and WiMAX meant that total wireless broadband accounts reached 6.06 million;the number was 81,000 more compared with the previous quarter.



	2010Q3	2010Q4	2011Q1	2011Q2	2011Q3
3G	1,596.42	1,648.55	1,696.35	1,716.78	1,749.86
GPRS	219.97	208.77	204.61	200.64	202.27
WBA			5.83	7.15	12.87
PHS	95.73	91.67	86.89	85.56	83.32
WAP	0.37	0.36	0.34	0.33	0.32
Mobile Broadband	1,596.42	1,648.55	1,702.19	1,723.93	1,762.73
Mobile Internet	1,912.50	1,949.35	1,994.05	2,010.47	2,048.65
Wireless Broadband	284.78	363.39	496.04	521.32	602.47

Source:NCC
Collection:FIND

Fig1. Number of Mobile Subscriptions by Services

ii. 固網用戶數觀測
(Fixed Line Subscriptions)

截至 2011 年 12 月底止，我國有線寬頻網路總體用戶數已達 526 萬，較 2011 年第 3 季增加 2 萬名用戶。比較不同連網方式的用戶數占比，xDSL 用戶減少為 190 萬，占總有線寬頻用戶數之比例為 36%；而有線電視纜線數據機寬頻上網（Cable Modem）與光纖（FTTx）用戶仍持續穩定增加。本季 Cable Modem 用戶數增加為 94 萬，占總寬頻用戶 18%；而 FTTx 用戶本季增加約 6 萬戶，為 241 萬用戶，占全部有線寬頻用戶數 46%。

As of the end of December, 2011, the total number of wired broadband network subscriptions in Chinese Taipei had reached 5.26[1] million, 20,000 more than the fourth quarter of 2011. In comparison, the number of xDSL subscriptions has reduced by 1.9 million, with its share of wired broadband network subscriptions currently at approximately 36%. In contrast, the number of cable modem and FTTx[2] subscriptions keeps increasing steadily, showing an increase this quarter of 940,000 and a share of 18%. The number of FTTx subscriptions has increased by 60,000 and reached to 2.41 million this quarter, a market share of 46%

與上一季比較，Cable Modem 用戶數仍然呈現穩定增加的趨勢。FTTx 因業者持續推廣下載速率為 20M、50M 等高速寬頻上網資費方案，加速 xDSL 轉換至光纖上網的速度。由於本季許多用戶升級光纖高速上網，整體網路用戶選用連線速率大於 8M 占比較上一季增加 1%，達 55%。

Compared with the last quarter, the number of cable modem subscriptions still continues to increase steadily. With the constant promotion of high-speed broadband service package, such as for 20Mps and 50Mps, the switch-over from xDSL to FTTx is accelerating. Many subscriptions have upgraded their service package to a FTTx high-speed service package this quarter, so the share who have chosen a connection rate higher than 8M has reached 55%, 1% more than the previous quarter.

中華臺北固網寬頻用戶近八成由中華電信所提供。由於中華臺北現有 790 萬家庭用戶，但仍有 390 萬家庭用戶沒有使用上網服務，因此，中華電信在 2012 年第 1 季推出低價入門型的 1Mbps 上網服務中華電信繼去年推出 50Mbps 光世代寬頻上網後，今(2012)年推出 100Mbps 寬頻上網服務。

Approximately 80% of the fixed broadband lines in Chinese Taipei are provided by Chunghwa Telecom. Although there are 7.9 million households in Chinese Taipei, 3.9 million do not have network services. Therefore, Chunghwa Telecom has been promoting a cheap pricing program of 1Mbps network package during the first quarter of 2012. After promoting 50Mbps HiNet ADSL last year, Chunghwa Telecom is promoting a 100Mbps broadband network service this year (2012).

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[1] The number of broadband subscriptions is the number of users who gain access through xDSL, cable modems, fixed network or fiber optics network.

[2] The subscriptions of fiber optics network are subscriptions of FTTH and FTTB but not including those of FTTN and FTTC.

此外，未來 10 年，中華電信將花超過新台幣 2,000 億元(美金 66.67 億元)建設 FTTH 全光化網路，民國 101 年 4 月中華電信展開 1Gbps 寬頻試點計畫，在台北、新北市、桃園、台中、台南及高雄各選 25 個建物內已布建光纖的試用點，總試用客戶數達 1,200 戶，免費提供 1Gbps 速率高速上網。

In addition, Chunghwa Telecom will invest more than USD6.667 billion toward the establishment of FTTH networks over the coming 10 years. In April 2012, Chunghwa Telecom has initiated the 1Gbps broadband pilot test program and has chosen 25 buildings in the Taipei, New Taipei City, Taoyuan, Taichung and Kaohsiung city to deploy the testing point of FTTH. The total testing number reaching 1200 clients are offered 1Gbps high-speed internet without charge.

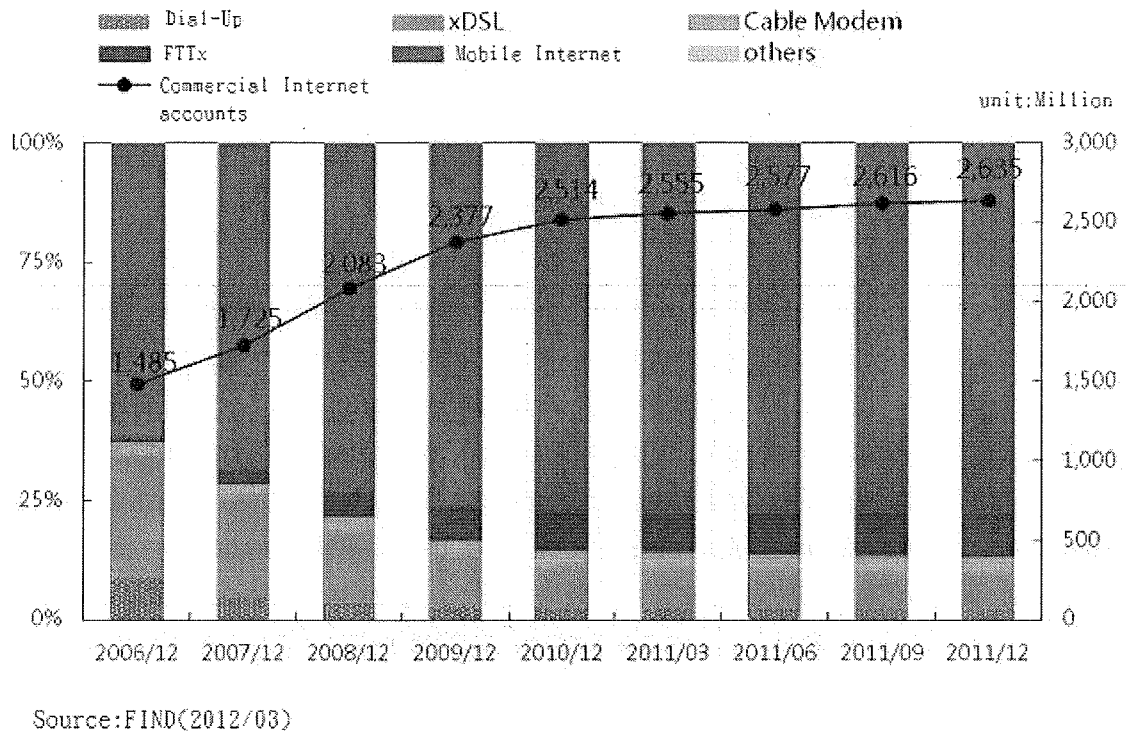

Fig.2 The number of online subscriptions

II. 通訊傳播監理政策

(Communications Regulatory Policy)

i. 數位匯流發展方案

(Digital Convergence Policy Initiative)

中華台北數位匯流發展方案期待藉由目標設定與各項策略的實施，達到「創造優質數位匯流生活、打造數位匯流產業、提升中華台北次世代競爭力」之願景。數位匯流的三大目標設定是參照國際匯流政策發展方向及我國通訊傳播環境現況所擬定，期望藉由策略的實施與推動，能有效鼓勵跨業競爭、促進通訊傳播產業結構的調整與升級。

The vision and objectives of the "Digital Convergence Policy Initiative" are expected to create high quality living through digital convergence, truly establish the industry convergence, and enhance competitiveness of the Next Generation Network by setting up targets and strategies. The three major objectives for our digital convergence were established in line with international convergence development and our telecommunications environment. We hope by practicing and promoting these strategies, we can encourage cross-industry competition and promote adjustments that effectively upgrade the industry structure of communications.

中華台北於 2012 年初修正「數位匯流發展方案(2010-2015)」，希望 2013 年達到可接取 100Mbps 寬頻網路之家戶涵蓋率達 100%的目標，有線電視全面數位化則於 2014 年達成。2015 年光纖用戶數達 7.2 百萬戶、無線寬頻網路帳號數達 11 百萬戶之目標。2015 年新興視訊服務用戶普及率可達 50%以及 2014 年數位匯流管制架構調整通過立法之指標。為達成這些指標，我們設定七個推動主軸：整備高速寬頻網路；推動電信匯流服務；加速電視數位化進程；建構新興視訊服務；促進通訊傳播產業升級；豐富電視節目內容及調和匯流法規環境。

Chinese Taipei passed the「Digital Convergence Policy Initiative」amendment at the beginning of the 2012. We plan that, by 2013, the household penetration of 100Mbps Fixed line Broadband will reach 100%, Cable TV will be comprehensively digitized by 2014. By 2015, the subscription number of fiber optic network household users will reach 7.2 million, and Wireless Broadband household subscriptions will reach 11 million. By 2015, the penetration rate of Emerging Video Services is planned to reach 50% and the legislation of the convergence regulation framework will be completed by 2014.In order to complete these indexes, we have established seven major directions：preparation of a high-speed broadband network；promotion of telecommunications convergence services；acceleration of digital TV switchover；developing innovative video/new media services；upgrading of communications industry; enriching TV program content；harmonization of the regulations for convergence.

數位轉換希望提升數位匯流下國民收視權益，提供更多選擇，並有利電視業者跨業經營通訊或網路服務，促進匯流服務的融合。目前台灣電視數位轉換計畫已於今年 6 月完成無線電視類比訊號轉換為數位訊號，希望 2014 年達到有線電視全面數位化之目標。類比電視訊號轉換為數位訊號，不僅可以提升畫質，提供視聽節目更多的頻道空間，給民眾多元之視聽選擇。亦是傳播產業跨業經營資訊通信服務，不可欠缺的基本條件。

Turning attention to the digital switchover, we hope to increase the viewing rights of people with digital convergence so there Is significantly more choice. This also provides opportunities for the broadcasters that cross industry to run communications or internet services, urging the integration of convergence. In accordance with the digital switchover plan, the digitization of terrestrial television has just been completed this June. Our goal is that Cable TV will be comprehensively digitized by 2014.Switching from the analogue television signal to a digital one not only enhances TV definition and provides more opportunities to both viewers and broadcasters, but also it's an indispensable essential requirement for the broadcasting industry to run Information- Communication services.

電信普及服務確保國民基本通信權益，使全體國民在國內任何地區皆得按合理價格公平享有一定品質之必要語音與數據服務。NCC 已於 2007 年完成「村村有寬頻」。2010 年完成「部落有寬頻」。到 2010 年台灣全國各地偏遠地區在內所有部落皆可享受 2M 之寬頻服務。2012 年起 NCC

推動提升寬頻上網速率，將普及服務之數據服務頻寬由 2M 提升至 12M，預計到 2015 偏遠地區的涵蓋率可達 90%。普及服務政策目標的達成始得全國各地皆可享受數位匯流的成果。所產生的效益有縮減偏遠地區資訊教育的落差與提供多網合一服務。多網合一服務的提供，可有效解決部落市話、公共電話、寬頻上網、MOD 服務以及行動通信服務問題。同時偏遠地區也可利用網路行銷，發展生態旅遊及促進當地農業發展，與世界接軌。

Broadband Universal Service assures the basic communication rights of people – that is access to quality voice and data services at a reasonable price anywhere in Taiwan. NCC completed the projects of "Broadband for Villages" in 2007 and "Broadband for Tribes" in 2010. All tribes in isolated areas in Taiwan can now enjoy 2Mbps broadband services. Since the beginning of 2012, NCC has been promoting the increase of broadband speeds from 2Mbps to 12Mbps; it is estimated that by 2015, the coverage of isolated areas can reach 90%.Broadband Universal Service achievement brings us tangible benefits and allows all people in the nation to enjoy the results of digital convergence. It is already bridging the gap in the level of education in remote areas and providing multi-play services, which can resolve the problems in local telephony, public telephones, broadband Internet, MOD service, and mobile telecommunication. Furthermore, those in remote areas are taking advantages of Internet marketing to develop ecological tourism and local agriculture to connect with the world.

因應未來數位匯流的發展趨勢，NCC 透過普及服務與數位轉換的推動，期望為電信、廣播及網際網路產業形塑一良好的發展環境。也期望透過整體資通訊政策的推動能有效鼓勵創新化市場競爭機制，使所有的民眾均得以合理的價格享受更優質的寬頻匯流服務，從而帶動國民數位能力的提升、強化我國產業競爭力。

In order to meet the future digital convergence development, NCC plans to facilitate a sound environment for telecommunications, broadcasting, and the Internet through universal services and the digital switchover. Also, through promoting the integrated Information-Communication Policy; we hope to encourage effectively innovative mechanism of market competition, so that all people can enjoy better broadband convergence services at a reasonable price. Consequently, this will increase people's digital ability and strengthen our industry competitiveness.

交通部為中華臺北「數位匯流發展方案(2010-2015 年)」中負責「整備高速寬頻網路」，持續努力推展相關作業，中華台北就資通訊(ICT)基礎寬頻建設主要目標為「可接取 100Mbps 寬頻網路之家戶率」，原預訂 2015 年達 80%，為因應科技發展情形及民眾應用網路需求，使民眾享有速度快、品質好及價格低之優質網路服務，將以 2013 年達成全面到戶為目標；光纖用戶數達 720 萬戶；無線寬頻網路帳號數達 1,100 萬戶。
相關推動成果如次：

截至 2012 年 6 月份，提供 31.25%可接取 100Mbps 寬頻網路家戶率。
截至 2012 年 5 月，光纖用戶數達 370 萬戶。
截至 2012 年 5 月，無線寬頻網路帳號數達 814 萬戶。

The Ministry of Transportation and Communications (MOTC) is responsible for the readiness for high-speed broadband networks under the "*Digital Convergence Development Program (2010-2015)*" in response to the rapid technological development and increasing needs for internet usage.To provide quality internet services with affordable high-speed rates, the ICT infrastructure goal of 100Mbps fixed-line broadband access in household will be achieved 2 years ahead of schedule, completed in 2013, with penetration rate rising from 80% to 100%. Optical fiber subscribers are expected to reach 7.2 million households; Wireless broadband accounts are expected to reach 11 million households. Related progress includes the following:
In June 2012, 31.25% of households accessed 100Mbps broadband network.
In May 2012, optical fiber subscribers amounted to 3.7 million households.
In May 2012, wireless broadband accounts reached 8.14 million households.

ii. 無線電視進入數位新紀元
(Terrestrial TV Enters the Digital Era)

中華台北無線電視2012年6月30日進入數位新紀元，正式關閉使用五十年的類比無線電視訊號，進入數位電視元年。自 1998 年起我國即開始推動數位無線電視轉換，原規劃於 2010 年底前收回類比無線電視頻道，不過因種種困難仍須克服，NCC 於民國 2010 年起承接後，積極推動數位無線電視改善站建置、數位機上盒安裝補助、數位轉換技術宣導及關閉類比無線電視頻道事宜。並經由政府機關、五家電視臺、地方政府、公民營團體及熱心人士等齊心協力，終於在今天完成全面轉換。

Chinese Taipei's terrestrial TV entered the new digital era on June 30, 2012. After shutting down the terrestrial analog TV signal, which had been used for fifty years, the first year of digital TV arrived. The switch from terrestrial analog TV to digital terrestrial TV had been promoted since 1998. It was originally planned to shut down terrestrial analog TV channels by the end of 2010, but due to various difficulties, NCC, after taking over the task in 2010, established digital terrestrial TV information stations, subsidized the installment of set-top boxes, and promoted digital conversion technology and the affairs of ending wireless analog TV. Through the collaboration among the government, five TV stations, local governments, public and private sectors and people who were devoted to the affair, the conversion has finally completed.

中華台北舉辦「數位無線精彩無限-展望無線電視數位新紀元」活動，讓全民共同見證台灣無線電視發展的歷史時刻。

Chinese Taipei held the activity of "Magnificent Moment—Prospect for New Era of Digital Terrestrial TV" and let the public witness the historical moment of the development of terrestrial TV in Taiwan.

中華台北完成無線電視數位轉換後，不但能促進民眾收視量與質，提升頻譜資源使用效益，也可強化國際競爭力，與世界先進國家接軌。

After completion of the switchover transition, the quantity and quality of TV programs has improved and the efficiency of frequency spectrum promoted. In addition, our international competitiveness should strengthen.

回顧推動無線電視數位轉換過程，因為政府機關、五家電視臺、地方政府、公民營團體及熱心人士之辛勤付出，讓數位轉換的工作得以順利完成，藉由本活動表揚五家電視臺、地方政府、公民營團體及熱心人士等事蹟，並頒發獎座，表達感謝之意。

In retrospect of promoting digital terrestrial switchover transition, thanks to government organizations, five TV stations, local governments, public and private sectors and people who were devoted to the affairs, the task of digital conversion happened relatively smoothly. Trophies were awarded to the above-mentioned groups and people to show the appreciation during the activity.

中華台北無線電視全面邁入數位化新紀元後，配合倫敦奧運的到來，五家無線電視臺及相關公協會將以「積極創新、展望未來」願景，帶給民眾更高畫質、更多元、更優質的無線電視新體驗，邀請您一起迎接無線數位電視嶄新時代。

Chinese Taipei emphasized that after terrestrial TV entered the new digital era, with the coming of London 2012 Olympic Games, the five terrestrial TV stations and related public associations would keep the vision of "Constructive Creativity for the Future" in mind to bring the public a new experience of terrestrial TV with higher definition, more options and higher quality. Everyone is invited to welcome the brand new era of digital terrestrial TV.

iii. 提供雙向 **100M** 寬頻上網服務
(Two-Way 100M Internet Access Provided)

中華台北通過中華電信提報雙向 100M 等服務資費方案，使我國寬頻服務達到 100M 的新里程。但由於該等資費經以匯率及國民所得等因素調整後，相較鄰近國家仍有偏高情形，因此 NCC 將責成中華電信公司於本案核定函到 6 個月內，檢討並提出調降方案到會審查。中華電信為因應數

位時代之潮流，用戶需要更大之上下行速率（頻寬），因此提報雙向 100M 等服務資費方案提供消費者更多的選擇，除能有效地提升用戶追求高速上網需求外，亦可促進數位內容產業之發展。

The two-way 100M service package proposed by Chunghwa Telecom Co., Ltd. was approved by Chinese Taipei, which enabled broadband service to reach a new milestone of 100M. However, the tariff, after being adjusted due to some factors like exchange rate and national income, was still comparably high. Therefore, NCC requested Chunghwa Telecom Co., Ltd. to review and propose a tariff-reduction program within six months upon the receipt of the approval letter from NCC. In response to the coming of the digital era, Chunghwa Telecom Co., Ltd., in order to provide users with broader bandwidth, proposed the two-way 100M service package for consumers. It can efficiently meet the need of users who pursue high-speed Internet connection, and can also improve the development of digital content industry.

iv. 衛星行動通信服務推展
(Mobile Satellite Service Promotion)

國家通訊委員會核准中華電信公司得代理 Thuraya 衛星行動通信業者在我國推展衛星行動通信業務，以提供民眾多樣化通信服務，尤其對於高山、離島、近海等地區之一般通信需求及政府單位防災救助緊急通信使用，將有助強化目前山難海難救助機制。目中華台北無衛星行動通信業務經營者，僅中華電信公司自民國 72 年迄今代理 Inmarsat 衛星行動通信業務，為中華台北籍船舶或航空器提供服務，並推展至陸上防災救難單位使用。但民國 98 年八八水災時，內政部消防署配置於全省各鄉鎮市 Inmarsat 衛星行動電話，當地因操作不當或不熟練，無法發揮作用。Thuraya 衛星行動通信服務所搭配之手持式衛星行動電話在攜帶及操作使用上較容易(手機重量低於 200 公克) ，亦可補足陸地行動通信網路之涵蓋範圍。

NCC approved of the Chunghwa Telecom Co., Ltd. to represent Thuraya Mobile Satellite Services for promoting the service in Chinese Taipei, especially for the regular mobile needs in the mountains, outlaying is lands and coastal areas and for the emergency needs of the government, which would intensify the current emergency mechanism of rescue efforts. There was no mobile satellite service business in Chinese Taipei, except that Chunghwa Telecom Co., Ltd., since 1983, had represented Inmarsat Mobile Satellite Services to provide services for our vessels and aircraft and for emergency prevention and rescue sectors. However, when the flood of August 8th, 2009 struck, the Inmarsat satellite mobile phones allocated in Taiwan by National Fire Agency of Ministry of the Interior did not function well due to certain operation error or unskillful practice. The satellite mobile phone accompanying Thuraya Mobile Satellite Services is easier to carry and operate (the weight of the mobile phone is below 200 grams), and it can complement the range of mobile Internet access on land.

中華電信公司雖經核准得代理經營Thuraya衛星行動通信業務，仍應依規定提報資費、營業規章、服務契約範本經該會核定後，始得經營代理業務正式提供服務

Although Chunghwa Telecom Co., Ltd. had been approved to represent Thuraya Mobile Satellite Services, the company shall submit the service tariffs, the terms and conditions of service provision, and the model contract of service provision to the NCC for approval before representation of its business. Important laws and regulations related to the satellite mobile business are as follows:

相關外國衛星行動通信業者須與我國衛星通信業務或經營國際網路業務之固定通信業務之經營者訂定合作契約，並由我國衛星通信業務或經營國際網路業務之固定通信業務之經營者代理在我國推展其衛星行動通信業務。

Foreign Mobile Satellite Service (MSS) operators shall be able to provide service by entering into a cooperative agreement with a domestic Satellite Communication Operator or International Network Business of Fixed Network Telecommunications Services. The domestic Satellite Communication Operator or International Network Business of Fixed Network Telecommunications Service that has entered into such agreement shall act as a representative to promote the MSS within Chinese-Taipei.

我國衛星通信業務或經營國際網路業務之固定通信業務之經營者依前項規定代理外國衛星行動通信業者在我國推展其衛星行動通信業務，應檢具相關申請文件，報請中華台北通訊傳播委員會核准。

Domestic Satellite Communication Operators or International Network Businesses of Fixed Network Telecommunications Services that plan to represent foreign MSS in Chinese-Taipei shall submit relevant application documents to the NCC for approval.

我國衛星通信業務或經營國際網路業務之固定通信業務之經營者未經中華台北通訊傳播委員會核准，不得代理外國衛星行動通信業者在我國推展其業務。

Domestic Satellite Communication Operators or International Network Businesses of Fixed Network Telecommunications Services shall not act as a representative to promote the MSS within Chinese-Taipei prior to the approval of the NCC.

我國衛星通信業務或經營國際網路業務之固定通信業務之經營者代理外國衛星行動通信業者，應依規定提報資費、營業規章及服務契約範本並經中華台北通訊傳播委員會核定後，始得經營代理

業務；經營衛星通信業務之特許費、頻率使用費等行政規費及其他法定經營者之義務，由我國代理業者依規定負擔之。

Domestic Satellite Communication Operators or International Network Businesses of Fixed Network Telecommunications Services that promote MSS in the Chinese-Taipei shall submit the service tariffs, the terms and conditions of service provision, and the model contract of service provision to the NCC for approval before representation of its business. Official payments, such as operation franchise fees, charges of frequency usage, and other statutory obligations, shall be fulfilled by domestic Satellite Communication Operators or International Network Businesses of Fixed Network Telecommunications Services in accordance with the relevant laws.

v. IPv6 發展
(IPv6 Development)

在推動時程上，預定於 2013 年完成主要外部服務升級支援 IPv6 服務，包含政府機關網站、DNS、電子郵件以及重要國際性服務等，以全部外部服務之 50%為原則；2015 年則應完成其餘 50%之次要外部服務之 IPv6 升級，並於 2016 年左右完成內部使用網路升級。
2011 年度在 IPv6 網路的發展上已獲得許多重要成果，包括：

Regarding the IPv6 roadmap, completion of the IPv6 upgrade of major public government network service is required by 2013. The primary services include key web sites, DNS, Email, and other important international services, etc. The principle applied is for major external service to be 50%, with the goal to complete IPv6 upgrade of minor public government network service in 2015, and finally complete IPv6 upgrade to internal service sometime around 2016.
Major achievements in IPv6 development in 2011:

交通部於 101 年 2 月 20 日完成 IPv6 資通設備與軟體規範建議書， 以供政府單位及民間單位採購資通設備之參考；建立 IPv6 移轉標準作業手冊，並積極引導國內 SI 廠商參與 IPv6 推動的工作。

On February 20, 2012, the development of the proposal of IPv6 standard for ICT equipment to be used for reference of purchasing was completed. This has developed IPv6 transition SOPs and introduced domestic ICT system integrators to participate in the work of IPv6 promotion.

協助國內資通訊(Information and Communication Technology, ICT)產品獲得國際 IPv6 認證標章，截至 2012 年 6 月，中華台北累計 158 件資通訊產品通過 IPv6 Ready Logo 銀質標章(Phase

I)及 126 件資通訊產品通過 IPv6 Ready Logo 金質標質(Phase II)認證，兩類認證產品數量均為全世界排名第二(如圖 3)。

Chinese-Taipei has helped domestic Information and Communication Technology (ICT) product providers pass international IPv6 Ready logo certification. By the end of 2012, 158 products had passed phase I certification and 126 had passed phase II, ranking Chinese Taipei third in the world (Figure 3).。

在基礎建設方面，台灣高品質學術研究網路（Taiwan Advanced Research and Education Network, TWAREN）已完成環繞全島的 *IPv6* 骨幹網路，臺灣學術網路(Taiwan Academic Network, TANet)各縣市網路教育中心及全台國中、小學已有超過 95%升級啟用 IPv6 服務，多家主要 *ISP* 之網路骨幹亦可支援 *IPv6* 並*開始進行 IPv6 用戶線路接取之服務測試*，同時我國 *IPv6* 國際及國內連線頻寬已分別達到 *7.5 Gbps* 與 5.5 Gbps(Dual stack)。

Regarding infrastructure, TWAREN (Taiwan Advanced Research and Education Network) has finished the IPv6 backbone of Chinese Taipei. TANet (Taiwan Academic Network) is over 95% completed and has already launched the IPv6 service. The major ISP backbone can support the IPv6 protocol and begin trials for client circuit connection. The IPv6 connection bandwidths in Chinese Taipei reached 7.5Gbps for international connection and 5.5Gbps for domestic connection.

在 IPv6 交換服務方面，已有國內 5 家業者(台灣碩網，台灣固網，遠傳電信，亞太電信，及 HiNet)的 IPv6 骨幹網路加入；在 ISP 提供連線服務方面，目前主要 ISP 皆已取得 IPv6 位址，並在我國 IPv6 計畫推動下，國內 5 家 ISP 業者皆提供 IPv4/IPv6 Tunnel broker service。在寬頻網路雙協定接取服務試驗方面，完成商業連線 FTTx 測試架構規劃與實驗室環境測試報告、ISP 技術方向及實驗室測試報告、民營 ISP IPv4/IPv6 雙協定 FTTx 供裝及服務測試報告。

Regarding the IPv6 switch service, 5 domestic ISP companies (So-net, TFN, FETnet, APTG, and HiNet) have joined the IPv6 backbone. Moreover, as for ISP connection, the major ISPs have acquired IPv6 addresses. Because of national IPv6 project, the 5 domestic ISP companies provide IPv4/IPv6 Tunnel broker service. Furthermore, in regards to broadband dual stack access trials, the draft of experiment framework of a commercial FTTx network and laboratory environment testing report, ISP technique direction and laboratory environment testing report, private ISP company IPv4/IPv6 dual stack FTTx installation and service experiment report have all been completed.

在應用服務發展上，於影音、多媒體教學、互動會議平台以及物件連網等方面，發展 4 項以 IPv6 技術為基礎的應用服務雛型系統；另在人才培訓上，完成 18 場 IPv6 技術實機及講習教育訓練，並配合全球 IPv6 日(100 年 6 月 8 日)培訓 IPv6 技術種子，總共約培訓 510 人技術人員。

Turning to the development of application services, measure included the development of four IPv6 based application prototypes, which include video streaming, multimedia education, interactive distance conference, and Internet of things. The education and hands-on training courses, as well as Organizing IPv6 seed training in conjunction with Global IPv6 day (June 8, 2011) activities was also organized. In total, more than 510 technicians have been trained.

在政府網路升級方面，於 101 年 2 月 21 日、22 日、24 日及 29 日辦理四場「網際網路通訊協定升級說明會」，順利推動全國各政府機關進行全面性網路應用服務與軟硬體設備清查，做為後續 IPv6 網路全面升級之基礎，並於 101 年 3 月 29 日舉辦「台灣 IPv6 全面升級記者會」進行宣導。

For the upgrade of government network, four seminars on IPv6UP Program were held during the period from February 21 to 29, 2012. A comprehensive survey on Internet application and network facilities launched by all government organizations has been smoothly promoted, and such survey will serve as a basis for overall IPv6 deployment. On March 29, 2012, the press conference on the launch of IPv6 in Chinese Taipei was held to further promote IPv6 deployment.

目前各政府部會皆已依前揭方案工作項目期程，完成指定推動 IPv6 單位與主管、清查尚未支援 IPv6 的軟、硬體，提出分期升級之規劃清單；截至 101 年 6 月底止，中央及地方各機關依前揭方案之 IPv6 升級清查進度完成比例如次：總統府、立法院、考試院、監察院及中華台北皆已 100% 完成；部級機關完成 98%；會署機關完成 95%；地方政府完成 92%

According to the timeframe specified in the IPv6UP Program, every government organization in Chinese Taipei has designated an IPv6 transition manager respectively, worked on thorough check on current network equipment and software that has not yet supported IPv6 deployment, and submitted IPv6 upgrade schedule for each government network service. Up to the end of June, 2012, the progress of the above-mentioned check in government organizations are as follows: 100% completed in the Legislative Yuan, the Examination Yuan, the Control Yuan and the Cabinet; 98% completed in the ministries of the Cabinet; 95% completed in the commissions and departments of the Cabinet; and 92% completed in local governments.

另在人才培訓上，2012 年度共規劃 63 場 IPv6 技術實機及講習教育訓練課程，上半年已完成 30 場課程，受訓人數 1,493 人，預計全年受訓人數超過 2,000 人。

Regarding personnel training, plans are in place to organize 63 training programs in 2012 for IPv6 technical and hands-on training. As of the first half of the year 2012, 30 training programs have been held that have improved the knowledge of 1,493trainees.It is expected that by the end of 2012, this number will pass 2,000.

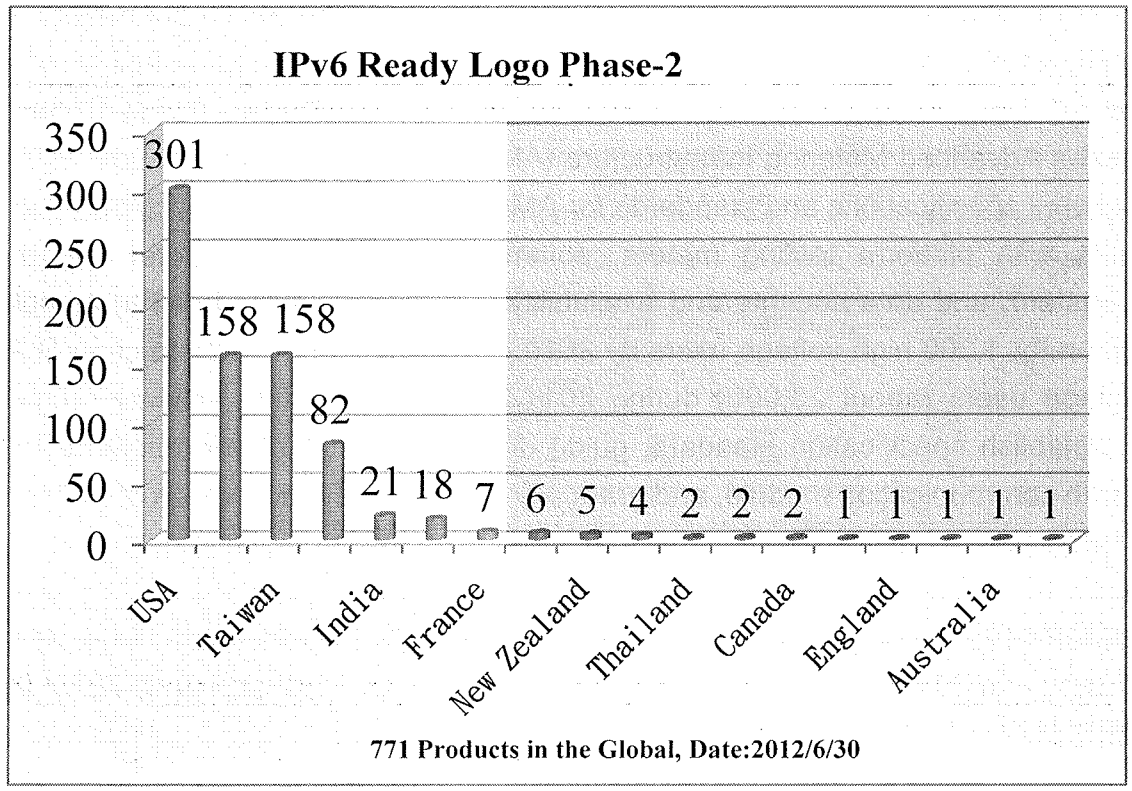

Figure 3: 2012 IPv6 Ready Logo Phase-2

III.產業動態

(Industry News)

i.中華台北推動規劃智慧電表基礎建設現況

(Intelligent Metering Infrastructure Promoting and Planning)

為邁向「低碳經濟」，建置智慧電網是我國節能減碳策略重要的環節，未來國內傳統電表將逐步更新為智慧型電表系統；加上拓展中國大陸等海外市場，將可帶來龐大的產業商機。目前台電公司推動的智慧型電表基礎建設（AMI），重點包括：研訂 AMI 相關功能規格與標準；建立開放性測試平台，提供廠商測試電表、通訊網路、電表資訊管理系統、資料安全性及可用性等。預定在

99 年高壓用戶先完成初期 1,200 戶電表，再於 100 至 101 年完成所有（2.3 萬戶）高壓 AMI 建置；並將先驗證技術可行性及訂定規格標準，輔導國內廠商產製具通訊模組之數位電表，再逐步推動低壓用戶（1,200 萬戶）建置。

To promote low-carbon economy, the construction of Smart Grid plays an important role in our energy conservation and carbon reduction strategy, so we will replace traditional meters with smart metering system gradually; also, we will expand into mainland China and other overseas markets, which will bring our industry huge business opportunities. Taiwan Power Company currently promotes Advanced Metering Infrastructure (AMI), and the highlights include: to draw up related functional specifications and standards for AMI; to establish open test platform so as to provide firms with platform testing meters, communication network, Meter Database Management System, and data security and availability, etc. We are scheduled to complete meters installation for 1,200 high-voltage users by 2010, and complete the construction of AMI for all high-voltage users (about 23,000) during 2011-2012. We will first validate technical feasibility and establish specification standard, guide domestic manufacturers manufacturing digital meters with communication module, and gradually promote the construction of advanced meters for low-voltage users (12 million).

根據經濟部能源局的評估，我國建構智慧型電表基礎建設，預計平均每年投入成本 62.8 億元，可創造每年 68 億元的電業效益，減少用戶每年 253.5 億元電費支出，帶動國內產業 781.9 億元總產值，具有相當高的成本效益。

According to the assessment of Bureau of Energy, the Ministry of Economic Affairs, we estimate to make average annual investment in Advanced Metering Infrastructure of NT$6.28 billion dollars, in which will create annual electrical efficiency of NT$6.8 billion dollars, decrease users annual electricity cost of NT$25.35 billion dollars, and promote the output value of NT$78.19 billion dollars of domestic industries; all in all, the investment has high cost-effectiveness.

我國具備雄厚的資通訊技術基礎，有利於國內開發自主性智慧型電表基礎建設（AMI）技術。目前高壓 AMI 電表除電力量測晶片（含軟體）國內無法生產之外，其餘組件如通訊模組、電池、電表資訊管理系統等，國內廠商均可自行開發生產。為爭取智慧電網產業鏈的龐大商機，國內廠商可在既有基礎上持續努力，積極掌握用電端管理服務系統、電動開關與配電變壓器等輸配電產品、智慧電表相關網通設備、晶片組與感測控制元件等領域的發展機會。

We have established a firm ICT (Information and Communication Technologies) base, and it will help us in developing automated AMI technology. Except for high-voltage AMI Electricity Removal Measurement Chip (software included), domestic firms can develop and produce the

other components, such as communication module, battery, and Meter Database Management System, etc. To strive for great business opportunities of Smart Grid industry chain, domestic industries can make continuing efforts upon existing foundations, actively grasp development opportunities to apply demand side management system(DSM), electric switches, distribution transformers, and other transmission and distribution products, relevant network equipment for smart meter, chipset and sensing and control components, etc.

ii. 舉辦台灣 **IPv6** 日
(Host Taiwan IPv6 Day)

活動財團法人台灣網路資訊中心（Taiwan Network Information Center, TWNIC）邀請國內重量級的網路接取服務及網路內容服務業者，共同舉辦台灣 IPv6 日活動，總計共有 407 個 IPv6 網站報名參與去年台灣 IPv6 日的測試活動，透過開放用戶瀏覽使用，以瞭解台灣 IPv6 的連線狀況。今年將延續去年 IPv6 日活動的測試基礎，該中心將於 2012 年 6 月 6 日舉辦「台灣 IPv6 全面啟用活動」(Taiwan IPv6 Launch)，邀請台灣網路服務供應商（ISP）、網路內容供應商（ICP）、網通設備廠商及網路用戶共同參與台灣 IPv6 全面升級；本次活動也結合國際「網際網路協會」(Internet Society, ISOC)「世界 IPv6 啟用」(World IPv6 Launch)活動，由全球主要的網路服務供應商(ISPs)、網通設備製造商(home networking equipment)及網站經營公司(web companies)共同參與「世界 IPv6 啟用」活動，正式並永久地提供 IPv6 相關服務與產品，對於全球網路相關產業而言，將會是一個強而有力的激勵，並正式宣告 IPv6 的時代已然來臨。

Taiwan Network Information Center (TWNIC) invited heavyweight Internet Service Providers (ISP) and Internet Content Providers (ICP) to mutually hold Taiwan IPv6 Day. There were 407 IPv6 websites registered online for participating in IPv6 testing activities last year; we understood the connection status of IPv6 through users' exploring and using. On June 6th, 2012, we held the "Taiwan IPv6 Launch" on the basis of last year, and invited ISP, ICP, Network equipment manufacturers, and Internet users to participate in Taiwan IPv6's comprehensive upgrade; the activity also combinedwith Internet Society (ISOC)'s "World IPv6 Launch," and the world's leading ISPs, home networking equipment, and web companies also took part in the "World IPv6 Launch," formally and permanently supply users with IPv6's relevant services and products. For related industries of global network, this is a powerful incentive and officially declares the era of IPv6 is in the offing.

推動 IPv6 對台灣網路服務的發展至關重要，也是中華台北資訊網路實力持續領先國際的重要關鍵。本中心因應 IPv6 全面升級，結合各界共同撰寫「IP 網路發展策略建議書」擘劃我國網路發展藍圖，本次藉由政府網路進行全面 IPv6 升級，將可以引導台灣進階下一代新網路。

To promote IPv6 is not only essential for the development of network services in Taiwan, but also the key for Chinese Taipei's information network to outpace other countries. In response to IPv6's comprehensive upgrade, our center cooperates with all walks of life to write the "IP Network Development Strategy White Paper" so as to deploy the development blueprint of our Internet. Through comprehensively upgrade Government's Internet to IPv6, we will lead Taiwan to new network of next generation.

iii. 電子發票的實施
(Implementation of electronic invoicing)

電子發票的實施廣受各界的注目，特別透過各式智慧型手持裝置的運用，能讓民眾使用更便利，逐步達到無紙化的目標。因此財稅資料中心電子發票推動小組特別以「電子發票智慧幸福新生活」為主題參加 2012 台北電信應用展，宣導電子發票應用讓民眾親身體驗電子發票帶來的各項便利新措施。

The implementation of electronic invoicing has been widely publicized; to gradually achieve the goal of paperless and for people's convenience; we particularly encouraged people to use all kinds of smart handheld devices. Therefore, E-Invoice Promotion Project Council of Financial Data Center chooses "Happy New Life of the Electronic Invoice" as the theme to take part in 2012 Taipei Telecom Applications Show, and to promote the application of electronic invoicing by encouraging people to experience the convenient new measures that has been brought by electronic invoicing.

資通訊產業一直是中華台北經濟成長的原動力，透過各式科技服務讓政府提供「主動、全程、分眾」的服務，是電子化政府致力的方向，加上節能減碳的全球趨勢讓電子化成為全民共識。電子發票參展除展現政府資訊化主動服務的努力外，更能呈現業界結合政府服務的實際成果。

The ICT Industry has been the driving force behind Taiwan's economic growth, through a variety of technology services, government supplies people with "active, full, and focus" services, which is the goal for E-government to take efforts;moreover, the global trend of energy conservation and carbon reduction makes electronic applications more of a national issue. E-Invoice Promotion Project Council's involvement in the show not only shows people how government strives to actively serve people through information technology, but also shows people the achievements of industries' cooperation with government services.

U.S. Regulatory Update

Recently, the FCC has focused on four main areas: (1) increasing broadband access and adoption, (2) freeing up spectrum for mobile broadband, (3) protecting consumers, and (4) improving security and public safety.

Increasing broadband access and adoption along with freeing up spectrum for mobile broadband remains top priorities at the FCC. About 18 million Americans still live in areas without access to robust fixed broadband networks. In addition, millions of Americans live, work, or travel in areas without advanced mobile services. And only two-thirds of Americans have adopted broadband at home – nearly 100 million Americans still don't have broadband at home, and 66 million lack digital literacy skills.

INCREASING BROADBAND ACCESS

Expanding Universal Service

To help address these challenges, the FCC recently expanded three of our universal service programs to better cover broadband services.

- **High Cost Program:**
  First, in October 2012, the FCC adopted comprehensive reforms to the High Cost universal service program. This program was originally designed to ensure that people in rural or high cost areas had access to affordable telephone service. The program has now been expanded to ensure that both fixed and mobile broadband services, and fixed and mobile voice services, are available nationwide.

  The new Connect America Fund (CAF) will provide up to $4.5 billion a year to help make these services available in areas where they would not otherwise be provided. An initial $300 million will be available beginning in 2012, with additional funds becoming available in 2013. Carriers participating in the program will have to meet broadband service requirements and interim three-year and final five-year buildout requirements.

  In April 2012, under the initial phase of the program, carriers were given up to 90 days to accept funding along with strict buildout requirements. On July 25, 2012, the FCC announced that as a result of this initial phase, nearly 400,000 residents and small

business owners in 37 states would gain access to high-speed Internet within three years.

The CAF includes two sub-funds. First, a Mobility Fund will provide funds for mobile voice and broadband services. Initial mobility funds will be awarded through a nationwide reverse auction. On May 2, 2012, the FCC announced procedures for the auction, in which carriers will indicate how much support they need to serve a previously unserved area, with support awarded to the lowest bidder. The auction will begin this September 2012. Second, a Remote Areas Fund will help ensure that Americans living in the most remote areas, where it would be very expensive to deploy traditional terrestrial broadband networks, can still have affordable access through alternative platforms such as satellite or unlicensed wireless services.

- **Lifeline:**
  Lifeline is the second universal service program overhauled and reformed by the FCC. This program has traditionally ensured that low income consumers have access to basic telephone service. The new goal of the program is to ensure that both broadband and voice services are available to all low-income Americans. The FCC also established a pilot program to determine how Lifeline can best be used to increase broadband adoption. It also allowed Lifeline support to be used for bundled service plans that combine voice and broadband services.

- **E-Rate:**
  The third program is the E-rate program, which provides funding for broadband in schools and libraries. Under the new rules, schools are now allowed to open their computer labs to people in the local community after students go home. The E-rate program also supports several *Learning On-the-Go* pilot projects that will help the FCC determine the best way to support wireless connectivity for mobile learning devices, such as digital textbooks, outside of school or library grounds.

- **Contributions:**
  In addition, in April 2012, the FCC issued a Further Notice of Proposed Rulemaking (FNPRM) proposing changes to the way the universal service program is funded. The FNPRM seeks comment on such issues as what services and service providers should contribute to the fund, and how contributions should be assessed, (*i.e.*, by revenues, phone numbers, number of connections, or a hybrid approach).

Ensuring Openness

In December 2010, the FCC adopted basic rules of the road for broadband providers to ensure continued Internet freedom and openness. The order stated that the Commission would create an Open Internet Advisory Committee (OIAC) to assist the FCC in monitoring the state of Internet openness and the effect of the new rules. The OIAC held its first meeting on July 20, 2012 and will develop its recommendations through four working groups: mobile broadband, transparency, specialized services and economic impacts. While the Commission order stated that the FCC would review its open Internet rules within two years, and make adjustments as necessary, the OIAC Chair said that the committee was under no mandate to deliver recommendations to the FCC by a specific date. He also said that he expects the group will develop recommendations by consensus, or, where appropriate, will simply provide the FCC with various points of view.

Measuring Speed

On July 19, 2012, the FCC released its second "Measuring Broadband America" report, part of the agency's effort to bring greater clarity and competition to the home broadband market. The report involves the results of a nationwide study of broadband performance, conducted in March 2011, of ISPs serving over 80% of the U.S. residential market. The report included the following findings:

- The average U.S. broadband provider is now delivering 96% of its advertised download speed during peak usage hours, as compared to just 86% a year earlier.
- Consumers are also receiving faster speeds – the average actual speed was 14.6 Mbps, a 38% increase over the previous year.
- At least 7 of the ISPs participating in the study advertised speed tiers of 50 Mbps, and 4 of these ISPs also offered speed tiers of 100 Mbps or higher.

The results show that the U.S. market is moving toward the performance goals set out in the National Broadband Plan of at least 100 million homes with affordable access to download speeds of at least 50 Mbps by 2015, and 100 Mbps by 2020.

Facilitating Buildout

In June 2012, the President issued an Executive Order that took steps to ease access to federal roads, lands and buildings for broadband infrastructure. It also directed the U.S. Department of Transportation to develop "dig once" policies so that carriers can deploy broadband when roads are already under construction.

PROMOTING BROADBAND ADOPTION

The FCC has also helped create Connect2Compete (C2C), a US$4 billion public private partnership that encourages broadband adoption by low income students and their families, at no cost to taxpayers. As part of this program:

- participating cable companies have agreed to offer two years of broadband service to eligible families for $9.95 per month;
- a computer refurbishing company will offer a computer with standard software and phone tech support for $150; and
- a major financial company has agreed to offer microfinance loans to help families cover the cost of the computer.

Several organizations have also agreed to provide free digital literacy training at schools, libraries and community and job training centers. A successful C2C pilot was recently completed in the San Diego area. The program will begin to roll out nationwide this fall and will be available in all 50 states by January 2013. A national digital literacy ad campaign will be launched in early 2013.

FINDING SPECTRUM FOR MOBILE BROADBAND

U.S. agencies are also focused on finding spectrum for mobile broadband. The growth of wireless technology in the past few years has been astonishing and has created an unprecedented demand for commercial access to wireless spectrum. According to a recent report in May 2012 by Cisco Systems, mobile Internet traffic in North America more than doubled in 2011, and is expected to grow over 15-fold in the next five years. In addition, the number of connected network devices worldwide is around 5 billion today, and could rise to 50 billion by 2020. U.S. Federal spectrum needs are also rising.

In June 2010, a Presidential Memorandum directed the Commerce Department's National Telecommunications and Information Administration (NTIA) to identify 500 MHz of Federal and commercial spectrum that could be repurposed to wireless broadband within 10 years on either an exclusive or shared basis. Progress has been slow, with NTIA so far only identifying 200 MHz of spectrum that could be shared with commercial wireless broadband providers – 115 MHz in the 1695–1710 MHz and the 3550– 3650 MHz bands, and 95 MHz in the 1755–1850 MHz band. Other bands are being examined and technical methods to share spectrum continue to be studied with various trials planned for 2013.

On July 20, 2012, the President's Council of Advisors on Science and Technology (PCAST) – an independent council of experts from industry and academia – released a major report recommending a different approach to spectrum management. In the report, PCAST seeks to address both the policy challenges and technological opportunities that have arisen in the two years since the original Memorandum was issued. The report concludes that the traditional practice of clearing and reallocating portions of the spectrum used by Federal agencies is not a sustainable model and notes that clearing these bands can be time consuming, expensive and disruptive. Instead, the report concludes that the best way to increase capacity is to use new technologies that enable large blocks of spectrum to be shared. The report states that spectrum should be managed not by fragmentation into exclusive frequency assignments, but rather by specifying large frequency bands that can accommodate a wide variety of compatible uses – thus creating the spectrum equivalent of wide, multi-lane spectrum superhighways. The report further states that the spectrum sharing should be the norm and that this approach could multiply the effective capacity of the spectrum by a factor of 1,000, transforming scarcity into abundance. PCAST further finds that technological innovations in recent years, including small cells and improved device performance, make this new approach eminently achievable.

The PCAST report includes the following major recommendations:

- The President should issue a new memorandum stating that it is the policy of the U.S. government to share underutilized spectrum to the maximum extent possible.
- The Memorandum should also require the Secretary of Commerce to immediately identify 1,000 MHz of Federal spectrum in which to implement shared-use pilot projects.
- NTIA and the FCC should implement a Federal Spectrum Access System (SAS) to serve as an information and control clearinghouse for the band-by-band registrations and conditions of use.
- NTIA and the FCC should establish methodologies for spectrum management that consider both transmitter and receiver characteristics to enable flexible sharing of spectrum.
- The Government should implement a mechanism that will give Federal agencies incentives to share and efficiently use spectrum.
- The FCC, working with NTIA and other Federal agencies, should immediately work on modifying its rules to allow "general authorized access" devices to operate in two bands in the NTIA fast track list, specifically the 3550-3650 MHz band and another band to be determined by NTIA and the FCC.

- The U.S., represented by the Department of State, and with advice from NTIA and the FCC, should make international harmonization of spectrum allocations to wireless broadband, particularly in bands to be used for this purpose in the U.S., a key element of the U.S. position at WRC-15 and in bilateral and regional discussions with Mexico and Canada.

The FCC has also been taking a number of steps to make more spectrum available. In February 2012, President Obama signed a new law that gives the FCC the authority to conduct the world's first incentive auctions. In an incentive auction, current licensees – such as over-the-air broadcasters – will be given the option to contribute some or all of their spectrum for auction in exchange for a portion of the auction proceeds. The Commission is currently working on a Notice of Proposed Rulemaking to implement the legislation.

In March 2012, the FCC proposed changing its rules to allow flexible use of 40 megahertz of spectrum in the 2 GHz band that is currently assigned to the Mobile Satellite Service. The proposed changes would make this spectrum available for mobile broadband use.

The FCC is also pioneering the development of White Spaces sharing in the TV bands and expects that this approach will be used in other bands as well.

In July 2012, the FCC Chairman announced plans to issue a Notice of Proposed Rulemaking later this year on small cell use in the 3.5 GHz band.

The FCC also continues to explore innovative ways to use spectrum. On May 24, 2012, the FCC adopted rules that will enable Medical Body Area Networks (MBANs), low-power wideband networks consisting of body-worn sensors that transmit patient data to a control device. The order allocates 40 MHz of spectrum at 2360-2400 MHz for MBAN use on a secondary basis. The U.S. is the first country in the world to allocate spectrum for this purpose.

CONSIDERING SPECIAL ACCESS REFORM

The Commission is also considering special access reform. A draft order on the FCC's special access rules was circulated in early June for consideration by the Commission. Special access refers to the high-capacity connections used by businesses and competitive providers to directly connect customer locations and networks. It is a key factor in determining the availability and pricing of broadband services. Competitive carriers, mobile broadband providers and business users have argued that investment, innovation, and broadband

competition are being suppressed by the current special access market – which features unfair prices and roadblocks to competition. There is also widespread agreement that the existing framework is broken. The draft Order sets forth a path to take a fresh look at the special access rules and to find the best way to identify areas where deregulation is appropriate.

PROTECTING CONSUMERS

Privacy

In February 2012, the Obama Administration unveiled a "Consumer Privacy Bill of Rights" as part of a plan to improve consumers' privacy protections and ensure that the Internet remains an engine for innovation and economic growth. The plan will guide efforts to give users more control over how their personal information is used on the Internet and to help businesses maintain consumer trust and grow in the rapidly changing digital environment.

The Consumer Privacy Bill of Rights provides a baseline of clear protections for consumers and greater certainty for businesses. The rights are:

- **Individual Control:** Consumers have a right to exercise control over what personal data organizations collect from them and how they use it.
- **Transparency:** Consumers have a right to easily understandable information about privacy and security practices.
- **Respect for Context:** Consumers have a right to expect that organizations will collect, use, and disclose personal data in ways that are consistent with the context in which consumers provide the data.
- **Security:** Consumers have a right to secure and responsible handling of personal data.
- **Access and Accuracy:** Consumers have a right to access and correct personal data in usable formats, in a manner that is appropriate to the sensitivity of the data and the risk of adverse consequences to consumers if the data are inaccurate.
- **Focused Collection:** Consumers have a right to reasonable limits on the personal data that companies collect and retain.
- **Accountability:** Consumers have a right to have personal data handled by companies with appropriate measures in place to assure they adhere to the Consumer Privacy Bill of Rights.

Also included in the President's Consumer Privacy Bill of Rights is a stakeholder-driven process to specify how these rights apply in particular business contexts; strong enforcement

by the Federal Trade Commission (FTC); and greater interoperability between the United States' privacy framework and those of our international partners.

Over the coming months, NTIA will convene stakeholders – including companies, privacy and consumer advocates, technical experts, international partners, and academics – to establish specific practices or codes of conduct that implement the general principles in the Consumer Privacy Bill of Rights. The first multi-stakeholder meeting was held on July 12, 2012.

The FCC has also been looking at privacy issues. In April 2012, the FCC proposed a US$25,000 fine against Google for obstructing an investigation into the company's collection of personal data from unencrypted Wi-Fi networks. The data collection occurred during mapping activities for Google's "Street View" project.

In May 2012, the FCC issued a public notice seeking comment on the privacy and data security practices of wireless service providers with respect to customer information stored on users' mobile devices. The comment period closes at the end of July. The FCC also released a staff report on location-based services.

Stolen Mobile Devices

In March 2012, the Chairman and Mexico's Minister of Communications agreed to cooperate on the establishment of a shared database for lost and stolen mobile devices. U.S. wireless carriers have committed to the creation of their individual databases and the exchange of lost/stolen mobile device data by September 2012.

Bill Shock

In October 2011, CTIA announced that its members, who serve more than 97% of U.S. wireless consumers, have agreed to a plan to address the problem of bill shock – or unexpected overage charges. Under the plan, consumers will receive alerts both before and after they reach their monthly limits on voice, data and text messaging. They will also receive a notification of international roaming charges when traveling abroad. These alerts will be provided free of charge to all subscribers unless they opt-out. The requirements are being phased in, and all alerts must be provided by April 2013.

In light of these industry measures, the FCC is putting its "bill shock" rulemaking on hold. The FCC will closely monitor industry practices to make sure that carriers provide the alerts as promised, and we'll take action if they fail to do so.

Cramming

On April 27, 2012, the FCC took steps to help consumers identify and prevent "cramming," the illegal placement of unauthorized charges on a consumer's monthly phone bill. The FCC adopted rules that: (1) require wireline telephone companies to notify subscribers of the option to block third party charges from their bill (if the carrier offers this option); and (2) strengthen an existing FCC requirement that third-party charges be separated from wireline phone company charges on the bill. The FCC also sought comment on additional protections, such as requiring prior consent from consumers before third party charges can be added to the bill. The new rules do not apply to mobile or VoIP services, but the FCC will monitor complaints about cramming from consumers of these services.

Robocalls

In February 2012, the FCC changed its telemarketing rules to further protect consumers from unwanted autodialed or prerecorded calls, often referred to as "robocalls." Unwanted telemarketing calls and texts were among the top three consumer complaint categories at the FCC last year. The new rules:

Require telemarketers to obtain prior express written consent before placing a robocall to a consumer;

Eliminate the "established business relationship" exemption; and

Require telemarketers to provide an "opt-out" mechanism during each robocall so that consumers can immediately tell the telemarketer to stop calling.

Loud TV Commercials

Finally, the FCC has adopted rules to protect consumers from excessively loud television commercials, another major source of consumer complaints. Under the new rules, commercials must have the same average volume as the programs they accompany. These rules go into effect in December of this year.

IMPROVING SECURITY

The FCC has also been focused on improving network security and public safety.

In February 2012, the FCC extended its network outage reporting requirements to interconnected VoIP service. Interconnected VoIP has become increasingly popular and, as

of the end of 2010, accounted for almost one-third of all residential telephone subscriptions in the United States. Interconnected VoIP service providers will now be required to report significant network outages that meet certain thresholds. Previously, the FCC's outage reporting requirements only applied to wired and wireless voice services.

In May 2012, the FCC issued an NOI to explore the use of Deployable Aerial Communications Architecture (DACA) technologies to provide emergency communications during and after disasters. Such technologies could include the use of unmanned aerial vehicles, weather balloons or existing aircraft.

The FCC is also concerned about cyber security. As the result of an FCC-led process, ISPs serving 90% of all U.S. residential broadband subscribers have committed to adopting voluntary, concrete measures to combat three major threats: botnets, Internet route hijacking and domain name fraud.[3]

In addition, working with the nation's police chiefs, the FCC reached an agreement with the major mobile carriers to create a database of stolen mobile devices, which will help crack down on the growing problem of smartphone theft.

Finally, the new incentive auctions law, which was signed in February 2012 also calls for establishing a nationwide interoperable mobile broadband public safety network. Proceeds from the incentive auctions will be used to provide the necessary funding. The law also directs

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[3] Botnets are networks of computers infected with malware that can be used to distribute spam or viruses. They have been used in several major cyber-attacks. To address this threat, the FCC advisory committee developed an Anti-Bot Code of Conduct. The code calls for ISPs to: (1) educate consumers about the threat, (2) take steps to detect botnets in customer computers, and (3) notify consumers when their computers have been infected. The other two threats involve sending Internet users to websites other than those they intended to visit. To combat these threats the committee recommends using technical measures that will allow users to verify that they are reaching an authentic website and that provide for more secure Internet routing. In addition, in May 2012, the administration announced the results of a voluntary partnership between the White House Cybersecurity Office and the U.S. departments of Commerce and Homeland Security, which worked with several trade associations and nonprofit groups to create the Industry Botnet Group (IBG). The group issued a list of principles for voluntary efforts to reduce the impact of botnets, including sharing responsibilities, coordinating across sectors, confronting the problem globally, reporting lessons learned, educating users, and respecting privacy.

the FCC to reallocate certain 700 MHz band spectrum for public safety use. The FCC will be working on these issues in the coming months.

附件 6

46th MEETING
APEC TELECOMMUNICATIONS & INFORMATION WORKING GROUP
Saint Petersburg, Russia, 30th July - 3rd August 2012

REGULATORY AND POLICY UPDATE
PEOPLE'S REPUBLIC OF CHINA

In the recent years, China's telecommunication industry maintains sound growth. The telecom industry has become an important driving force in accelerating the industrialization process, leveling up information development, and facilitating the in-depth integration of information technologies into industry. By the end of May 2012, the number of telephone users in China exceeded 1.3 billion, of which 280 million were fixed users and 1.04 billion were mobile users, including 160 million 3G users. The number of internet users was 530 million, with a penetration rate of 40%. In the first 4 months this year, operating revenue of the telecom industry totaled up to 380 billion yuan, up by 14% compared to the same period of last year. Revenue from mobile phone and broadband services represented the main contributor. Revenue from non-voice service accounts for over 50% of the total revenue.

In 2012, The Ministry of Industry and Information Technology has issued the *12th Five-Year Development Plan of the Telecom Industry* and the *12th Five-Year Plan for the Internet Industry.* According to the Plan, by the end of 2015, we will build the next-generation national information infrastructure featuring broadband, integration, security and ubiquity. We will realize the goal of "FTTH in urban areas, broadband access to villages, and information service benefiting all citizens".

In March this year, eight ministries and departments of Chinese government, including the Ministry of Industry and Information Technology, the National Development and Reform Commission, the Ministry of Science and Technology, the Ministry of Finance, the Ministry of Housing and Urban-Rural Development, the State-owned Assets Supervision and Administration Commission and the State Administration of Taxation, jointly launched the "Broadband Promotion and Upgrade Project".

This project aims at building up fiber network to increase the transmission speed, promote broadband and expand broadband applications, while reducing the price to benefit the public. The project will mainly focus on eight plans and programs, including Plan of FTTH in urban area, Plan of Upgrading Broadband Experiences, Program of Upgrading Broadband Capabilities of the Industrial Base, Plan of Broadband to Towns and Villages, Plan of Broadband Application Innovation Demonstrations, Scheme of Upgrading SMEs Broadband Application, Plan of Public Welfare Agencies Access, and Plan of Supporting High-Performance Broadband Access products.

China continues promoting the universal service through the "Village-access Project". By the end of 2011, 100% administrative villages and 95% villages have been provided with broadband access and 100% counties and 84% administrative villages provided with broadband access. We have build 20 thousand agriculture-related websites, 56 thousand rural information service stations, and 20 thousand county-level on-line libraries. From 2005 to 2011, the average broadband price dropped by 20%.

China also promote the joint construction and sharing of telecom infrastructure. Since 2008, we have reached positive progresses and remarkable results in the telecom industry. Through sharing construction, In 2011, we cut down over 27 thousand new towers, 50 thousand kilometers of trunk lines, 36 thousand base stations and supporting facilities, 79 thousand kilometers of transmission lines, 19 thousand kilometers of channels and 4 thousand indoor layouts, saving around 15 billion yuan in total. In 2012, China will usher in a new wave of telecom infrastructure construction, and the annual investment is expected to exceed 370 billion yuan, representing a 10% year-on-year increase. As required by the Ministry of Industry and Information Technology, telecom enterprise shall strengthen cooperation, adopt innovative operation mode and reduce redundant construction to effectively conserve resources and protect the environment. We shall turn the sharing and joint construction of infrastructure into a regular, standard, and systematic work.

While striving to foster a soundly competitive market environment, the Ministry of Industry and Information Technology has been putting up efforts to regulate competition, resolve disputes among enterprises, optimize market competition pattern and fight against spam SMS and network pornography, so as to purify the network environment and promote the sound growth of the telecom industry.

Thank you.

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Agenda item: Plenary **Submitted by:**

Australia

Australia's Regulatory Update

APEC Telecommunications and Information Working Group

46th Meeting | 30 July – 3 August 2012 St Petersburg, Russia

Please note: This document is not an official APEC document until approved by the Telecommunications and Information Working Group. This version is a draft provided for discussion purposes only.

APEC TEL 46 Working Group

CONTRIBUTION FROM AUSTRALIA

Plenary

Australia's Regulatory Update

Please find attached Australia's Regulatory Update.

Recommendation

It is recommended that the TEL note the Regulatory Update.

Contact: Ms Heather Chandler

KEY DEVELOPMENTS DURING 2012

National Broadband Network

A key element of the Australian Government's telecommunications policy is the rollout of a new high-speed National Broadband Network (NBN). The Australian Government recognises that access to high-speed broadband services is critical to Australia's future social and economic prosperity.

The new network will:

- provide all Australians with access to affordable high-speed broadband either via fibre-to-the-premises or next generation wireless and satellite technologies
- be the Australian Government's largest infrastructure project
- provide fibre optic transmission links connecting cities, major regional centres and rural towns
- be Australia's first national wholesale-only, open access broadband network
- be built and operated on a commercial basis by a company established at arm's length from Government.

NBN Co Corporate Plan

NBN Co Limited (NBN Co), the company established to build and operate the NBN, released its' 2011-13 Corporate Plan, on 20 December 2010. The Corporate Plan indicates that the total capital expenditure for the NBN is expected to be A$35.9 billion, with the Australian Government expected to contribute A$27.5 billion in equity for the rollout.

NBN Co is required to provide an updated Corporate Plan to Shareholder Ministers on an annual basis. On 13 June 2012, NBN Co provided an updated Corporate Plan covering the period from 1 July 2012 to 30 June 2015 (2012-15 Corporate Plan). The Government is currently reviewing NBN Co's 2012-15 Corporate Plan.

Fibre rollout

As of July 2012, construction of the NBN fibre network is underway or completed in more than 50 communities. Over 3 400 homes and businesses are now accessing services over the fibre network in twelve communities.

NBN Co released its first three year national fibre rollout plan on 29 March 2012. The indicative plan lists 3.5 million homes and businesses where work is due to begin, be underway or completed by mid-2015. The three year plan will be updated each year.

The Telstra and NBN Co Definitive Agreements, which came into effect on 7 March 2012, pave the way for a faster, cheaper and more efficient rollout of the NBN. These agreements include the reuse of suitable Telstra infrastructure and for Telstra to progressively structurally separate by decommissioning its copper network and broadband hybrid fibre-coaxial (HFC) network capability during the NBN rollout. The Definitive Agreements will mean less disruption to communities, less use of overhead cables and faster access to the NBN for Australians.

The Australian Government has developed a policy for providing fibre in new developments as part of the rollout of the fibre network. Under this policy, NBN Co must provide fibre infrastructure to new developments in which the developer does not wish to use other providers, where the development was approved after 1 July 2011 and comprises of 100 lots or more.

As of May 2012, NBN Co is building fibre infrastructure in more than 230 new developments spread across 180 locations nationally, comprising almost 21,000 premises.

Fixed wireless rollout

Work has started on the delivery of NBN Co's fixed wireless network. The fixed wireless network will provide peak download speeds of 12 megabits per second (Mbps), using the latest 4G technology.

On 1 June 2011, NBN Co announced that it had entered into a ten year contract with Ericsson worth up to $1.1 billion to design, build and operate a 4G fixed wireless network to serve those Australians outside the fibre footprint.

The first trial services over the fixed wireless network are already underway with commercial services to commence late in 2012.

Next-generation satellite rollout

On 8 February 2012, NBN Co signed a $620 million contract with Space Systems/Loral to build two Ka-band satellites as part of the long-term satellite service. The long-term satellite service

will provide peak download speeds of 12 Mpbs over its next-generation network. This will deliver a step-change in performance for satellite users in terms of speed and reliability, particularly for regional and rural users.

NBN Co's Interim Satellite Service (ISS), which was initiated in July 2011, offers improved high-speed broadband services to Australians living in regional and remote Australia in advance of the long-term satellite solution. As of 9 July 2012, over 9,800 services were active nationally, with ten retail service providers offering services on the ISS.

The ISS targets customers without access to a metro-comparable broadband service. It uses existing satellite capacity and new ground infrastructure to provide peak speeds of six Mbps download and one Mbps upload.

Regional Backbone Black Spots Program

As part of the Australian Government's commitment to deliver the NBN, it has invested $250 million to immediately address backbone blackspots throughout regional Australia. Almost 6,000 kilometres of fibre-optic backbone transmission infrastructure, covering five links across regional Australia, were completed in 2011 as part of the Regional Backbone Blackspots Program (RBBP).

Backbone links are the broadband highways that connect our cities, towns and rural areas to the wider world. Enhancing backbone competition assists broadband and telephony providers to improve the range, quality and prices of the services they offer in regional areas.

Nextgen Networks, which built the network, is also providing a full range of competitive backbone services, on an equivalent basis to all access seekers. This is already resulting in improved retail service outcomes for consumers in localities covered by the RBBP where there was a lack of competitive backbone infrastructure.

First and second release sites

Construction of the fibre network is well advanced on the Australian mainland across five first release sites in four States, with five sites switched on for customer trials and commercial services commenced in October 2011. At the beginning of July 2012, the network had passed more than 39 000 premises.

Regulatory Issues

Regulatory framework for the National Broadband Network

The regulatory framework for the National Broadband Network (NBN) is established through the *National Broadband Network Companies Act 2011* (NBN Companies Act) and the *Telecommunications Legislation Amendment (National Broadband Network Measures—Access Arrangements) Act 2011* (NBN Access Act), which add to the existing generic telecommunications regulatory framework.

The Acts fix in legislation the Australian Government's policy commitment that the NBN will operate on a wholesale-only, open and non-discriminatory access basis. The legislation also deals with the ownership and process for the eventual privatisation of NBN Co.

NBN Co's Wholesale Broadband Agreement (WBA), a Standard Form of Access Agreement under Part XIC of the CCA, sets out the products and detailed terms and conditions, including prices, for NBN Co's commercial supply of services. As of July 2012, over 40 access seekers have executed access agreements with NBN Co, including all major internet service providers. NBN Co is engaging with industry through its Contract Development Process in order to develop and publish a two-year WBA, that would commence on 1 December 2012.

On 5 December 2011, NBN Co lodged a special access undertaking (SAU) with the ACCC. If approved by the ACCC, an SAU will provide long term certainty for access seekers on the terms and conditions of access to services provided over the NBN, as well as providing long term certainty for NBN Co on the recovery of its costs. The ACCC released two discussion papers on 20 December 2011 and 10 February 2012 to provide an overview of the SAU and to seek feedback on stakeholders' views. The ACCC then held a multilateral industry forum to discuss key issues associated with the SAU on 18 May 2012. Taking into account industry feedback, on 20 June 2012 NBN Co indicated its intention to lodge a revised SAU to the ACCC. NBN Co outlined its new incentive based, modular SAU design approach to the ACCC. NBN Co continues to work with the ACCC and industry in developing its SAU.

On 12 April 2012, legislative provisions commenced that impose obligations on owners or operators of non-NBN Co networks constructed or upgraded after 1 January 2011 that are capable of offering superfast carriage services (25Mbps downstream speeds) to residential and small business customers. Owners and operators must offer a Layer 2 bitstream service on a wholesale, open access and
non-discriminatory basis. These obligations support retail competition and innovation by imposing similar requirements to those imposed upon NBN Co networks.

On 22 February 2012, the ACCC declared a layer 2 bitstream service, the local bitstream access service (LBAS). The declaration defines the wholesale Layer 2 service that must be offered on designated superfast networks. This declaration commenced on 12 April 2012. On 6 July 2012, the ACCC released an interim access determination for the LBAS. The ACCC has released a report on the interim access determination and initiated a consultation process for the final access determination. Submissions responding to this paper are sought by 3 August 2012, subsequent to which the ACCC will make a final access determination.

On 19 April 2012, the ACCC released explanatory material on the non-discrimination provisions contained in Part XIC of the CCA, following a public consultation process. As part of the NBN reforms, NBN Co and other providers of superfast telecommunications services are prohibited from discriminating between their customers, except in very limited circumstances.

Structural separation of Telstra

The legislative definition of structural separation

Under the *Telecommunications Act 1997*, structural separation is defined to mean that after the designated day (which is 1 July 2018 or a later day specified by the Minister), Telstra will not supply fixed-line services to retail customers in Australia using a telecommunications network over which Telstra is in a position to exercise control unless that network or those services have been exempted.

The form of structural separation that was accepted

On 6 March 2012, Telstra's structural separation undertaking (SSU) and Migration Plan came into force. The SSU that was accepted by the ACCC provides for the progressive disconnection of Telstra's copper network and the broadband capability of its hybrid fibre-coaxial (HFC) network as the wholesale-only NBN Co fibre network is rolled out. The effect of this form of structural separation is that in those areas where the NBN is rolled out, most of Telstra's copper network will be disconnected, and the use of its HFC network to supply services to end-users would be limited to the supply of subscription and on-demand television and audio broadcasting services.

Telstra will be able to continue to supply services using copper and HFC in areas beyond NBN Co's fibre rollout. These services will be provided from 1 July 2012 through a contract for the delivery of the Universal Service Obligation. Telstra will not be required to separate other networks it operates, such as its backhaul or inter-exchange networks, its mobile phone

networks and its fibre networks.

The form of structural separation that was accepted by the ACCC will lead to the national outcome whereby, as at the designated day, retail service providers (RSPs) will no longer have to rely on access to Telstra's customer access network for the provision of the bulk of fixed-line services.

Retail competition will be based on access to a wholesale-only, open access network provided by NBN Co. In contrast to Telstra's current incentives as a vertically integrated provider, NBN Co will have an incentive to maximise use of its network by all RSPs, including Telstra. NBN Co is also required by statute to provide wholesale services on a non-discriminatory basis. Under this model of structural separation, the designated day is intended to align with the completion of the rollout of the NBN.

The ACCC's acceptance of the SSU means that it is satisfied that the SSU provides for appropriate and effective interim transparency and equivalence arrangements to apply during the period that Telstra is structurally separating (i.e. from when the SSU comes into force until the designated day). The arrangements will improve access for Telstra's wholesale customers to Telstra's copper customer access network and will promote competition and economic efficiency in telecommunications markets.

Regulated access to wholesale services

Access Pricing

The ACCC made an interim access determination for the wholesale ADSL service to apply from 14 February 2012.

In June 2012, the ACCC made a final access determination for the domestic transmission capacity service (DTCS). The DTCS FAD sets prices for inter-capital, metropolitan, regional and tail-end service backhaul routes, using benchmark prices collected from service providers during 2011.

Extension of Telstra Retail Price Controls to 2014

In June 2012, following the recommendations of a review of pricing policy, the Government decided to extend the current arrangements for Telstra retail price control for two years to 30 June 2014. The controls remain unchanged on legacy networks, however voice services

delivered over the NBN will be exempt from regulation, except in two respects: the cap on the price of local untimed calls will continue to apply, and the Minister will continue to have the power to disallow any charges levied on directory assistance calls.

A further review of retail price controls will be conducted prior to their expiry in 2014.

Universal Service Obligation Reform

On 21 March 2012, Parliament passed universal service reform legislation to ensure the continued delivery of key telecommunication consumer safeguards during and after the rollout of the National Broadband Network (NBN). The package of legislation consisted of the:

- *Telecommunications Universal Service Management Agency Act 2012*
- *Telecommunications Legislation Amendment (Universal Service Reform) Act 2012*, and
- *Telecommunications (Industry Levy) Act 2012.*

The passing of this legislation enables the transition from a regulatory model for delivering universal services to a more accountable and flexible contractual model.

The reform package provides for:

- the establishment of a new statutory agency, the Telecommunications Universal Service Management Agency (TUSMA), responsible for entering into and administering service agreements from 1 July 2012
- the consolidation of the existing Universal Service Obligation (USO) and National Relay Service (NRS) levies into a single levy to fund the delivery of the USO and other public policy telecommunications outcomes, and
- the introduction of a framework to enable the Minister to remove direct USO regulatory obligations from Telstra after a transitional period, subject to a number of conditions being met in relation to Telstra's contractual and regulatory performance.

The passage of this legislation follows the agreement reached on 23 June 2011 by the Australian Government (the government) and Telstra for the continued delivery of the USO for voice and payphone services and other public interest services during the transition to the NBN. The agreement with Telstra is managed by TUSMA. Since 1 July 2012, TUSMA has been responsible for managing contracts or grants to ensure:

- reasonable and equitable access to standard telephone service and payphones by all Australians;
- continued delivery of the Emergency Call Service and the NRS;

- continuity of supply of carriage services during the transition to the NBN through information programs, customer cabling installation programs, and carriage service development programs; and
- continued availability of untimed local calls for customers outside standard zones.

To ensure the continuity of services in the transition to the NBN, the majority of TUSMA's initial service agreements will be with Telstra. The term of these initial agreements with Telstra is up to 20 years. The legislative reform package also requires the Minister to review before 1 January 2018:

- the operation of the legislation applying to TUSMA;
- future policy, funding and contestability arrangements for delivery of services related to TUSMA's functions;
- whether any functions should be removed from TUSMA; and
- whether any additional functions should be conferred on TUSMA.

Cyber Security

The Australian Government has made cyber security a top national security priority and has invested significantly in enhancing Australia's cyber security capabilities. The Government is currently implementing the *Cyber Security Strategy* which was released in November 2009. The Strategy guides the efforts of Australian Government agencies towards achieving the Australian Government cyber security policy aim to the maintenance of a secure, resilient and trusted electronic operating environment that supports Australia's national security and maximises the benefits of the digital economy. This policy harnesses the full range of resources to help protect government, business and individual Australians and their computer systems. As a result, the objectives of Strategy are that:

- all Australians are aware of cyber risks, secure their computers and take steps to protect their identities, privacy and finances online
- Australian businesses operate secure and resilient ICTs to protect the integrity of their own operations and the identity and privacy of their customers, and
- the Australian Government ensures its ICTs are secure and resilient.

The Australian Government's cyber security policy is based on the following guiding principles:

- **national leadership** – the scale and complexity of the cyber security challenge requires strong national leadership
- **shared responsibilities** – all users, in enjoying the benefits of ICT, should take reasonable steps to secure their own systems, exercise care in the communication and

storage of sensitive information and have an obligation to respect the information and systems of other users

- **partnerships** – in light of these shared responsibilities, a partnership approach to cyber security across all Australian governments, the private sector and the broader Australian community is essential
- **active international engagement** – given the transnational nature of the Internet, in which effective cyber security requires coordinated global action, Australia must adopt an active, multi-layered approach to international engagement on cyber security
- **risk management** – in a globalised world where all Internet-connected systems are potentially vulnerable and where cyber attacks are difficult to detect, there is no such thing as absolute cyber security. Australia must therefore apply a risk-based approach to assessing, prioritising and resourcing cyber security activities
- **protecting Australian values** – Australia must pursue cyber security policies that enhance individual and collective security while preserving Australians' right to privacy and other fundamental values and freedoms. Maintaining this balance is a continuing challenge for all modern democracies seeking to meet the complex cyber security challenges of the future.

The Strategy sets out the following strategic priorities that the Government is pursuing to achieve its objectives:

- **threat awareness and response** - improve the detection, analysis, mitigation and response to sophisticated cyber threats, with a focus on government, critical infrastructure and other systems of national interest
- **cultural change** - educate and empower all Australians with the information, confidence and practical tools to protect themselves online
- **business-government partnerships** - partner with business to promote security and resilience in infrastructure, networks, products and services
- **government systems** - model best practice in the protection of government ICT systems, including the systems of those transacting with government online
- **international engagement** - promote a secure, resilient and trusted global electronic operating environment that supports Australia's interests
- **legal and law enforcement** - maintain an effective legal framework and enforcement capabilities to target and prosecute cyber crime, and
- **knowledge, skills and innovation** - promote the development of a skilled cyber security workforce with access to research and development to develop innovative solutions.

Key initiatives of the Strategy, which have all been implemented include:

- creating a new national computer emergency response team, CERT Australia
- establishing the Cyber Security Operations Centre, which was an outcome of the 2009 Defence White Paper
- introducing a program to reduce the number of Australian Government Internet gateways to the minimum number required for operational efficiency and reliability
- developing, in consultation with Internet service providers (ISPs), a voluntary ISP Code of Practice to promote best practice approaches to deal with cyber security issues
- establishing trusted information exchanges (IEs) between CERT Australia and the telecommunications, banking and finance and supervisory control and data acquisition (SCADA) sectors
- reviewing Australia's cyber security crisis management plan
- implementing a more comprehensive program of regular cyber security exercises, and
- increasing efforts in the education of home users, school students and small business about cyber security risks to help them adopt secure online behaviour.

Education and Awareness Raising

The Australian Government has a range of initiatives to raise the cyber security awareness of home and small business users. The Government recognises that the security of home users and small business is not only important in protecting their personal and financial information online; it is also a key line of defence in securing critical infrastructure and government networks.

The Australian Government has developed strong partnerships with industry, community groups and across all levels of government for its cyber security awareness efforts. The Government's key initiatives are set out below:

Annual National Cyber Security Awareness Week

National Cyber Security Awareness Week is an initiative held annually in partnership with industry, community and consumer groups and state, territory and local governments. The Awareness Week aims to help Australians understand cybersecurity risks and educate home and small business users on the simple steps they can take to protect their personal and financial information online.

National Cyber Security Awareness Week 2012 was held from 12 to 15 June in capital cities, regional centres and rural and remote towns to promote cyber security and cyber safety messages. The Department, along with over 900 partners across industry and community organisations, and all levels of government held 39 events during the 2012 Awareness Week.

Stay Smart Online website

The Stay Smart Online website (www.staysmartonline.gov.au) is a key element of the Australian Government's Cyber Security awareness raising initiatives. The website provides information for online users on security issues and the simple measures they can take to help protect themselves, their families, friends and business online.

The website offers information on a range of topics—including securing your computer, tips on how to safely bank and shop online and information for small businesses. There are also links to resources for parents and teachers to help them protect their children online. The website has a Blog page that is attracting considerable activity and there is also a dedicated Stay Smart Online Facebook page.

Stay Smart Online Alert Service

The Stay Smart Online Alert Service provides information in plain language on the latest security threats and vulnerabilities and possible solutions to address them. This free subscription based service is delivered through the Government's Stay Smart Online website. The subscriber system/database is being enhanced to allow subscribers to choose their information topics and their medium of choice i.e. facebook, twitter etc.

Education Package

The Australian Government has developed an interactive, self-learning education package, called Budd:e, which aims to provide children with the skills and knowledge necessary to protect themselves online. The package comprises separate modules for primary and secondary school students. It has comprehensive resources for teachers to support teacher professional development and classroom learning. Budd:e is being adapted for use on iPads and Android tablets and a mobile phone app will soon be released to encourage further use of the modules.

Budd:e is available free to all Australian schools through the Government's Stay Smart Online website or via a CD ROM that can be ordered online. It is also available on Scootle (www.scootle.edu.au), the Learning Federation's educational resources portal.

The Cybersafety Help Button

The Cybersafety Help Button launched in late 2010 has been downloaded onto over 320,000 computers to date. The Help Button provides internet users, particularly children and young people, easy online access to a wide range of cybersafety and security resources to help with

preventing and dealing with cyberbullying, unwanted contact, scams and fraud, and offensive or inappropriate material. Help Button applications are now available for mobile devices and browser software – these can be downloaded free of charge from the Department's website at www.dbcde.gov.au/helpbutton.

Youth Advisory Group on Cybersafety

The Youth Advisory Group on Cybersafety (YAG) is a group of young Australians aged 8-17 who provide advice to government on cybersafety issues from a young person's perspective through a secure online forum. The YAG plays a critical role in the development of cybersafety policy, resources and educational material.

To date in 2012 over 1010 YAG members from 121 schools across Australia have participated in the online consultations. Membership will continue to grow as the consultations with primary school students commenced on 23 July 2012 and will cease on 7 September 2012.

The Teachers and Parents Advisory Group on Cybersafety (TAP)

In April 2011, the Government launched the Teachers and Parents Advisory Group on Cybersafety (TAP). Teachers and parents from across Australia discuss cybersafety issues affecting children via a secure online forum and provide advice to government. The TAP was formed in response to advice from Youth Advisory Group (YAG) members who recommended that teachers and parents have a critical role in addressing cybersafety issues. TAP membership has increased from 87 last year to 136 to date. Membership forms continue to be received.

The new TAP secure website is live with additional content added each week. Members are currently being welcomed and asked for feedback on the current initiatives. Content and process is being developed for consultation on the social networking sites complaints handling protocol and under 13s accessing social networking sites.

The Cybersafety Summit

Nearly 200 secondary school aged members of the YAG, the TAP and the Consultative Working Group on Cybersafety attended the second annual Cybersafety Summit for secondary schools in June 2012. Participants provided feedback on a range of cybersafety initiatives including a guide to using the safety features of social media sites and the expansion of resources available on the Cybersafety Help Button. A summit for primary school agreed YAG members will be held in October 2012.

Australian Children's Cybersafety and E-security Research Project

In 2009, the Government commissioned a repeatable survey instrument and methodology for data collection on the changes in awareness and behaviour over time in relation to cybersafety, and relevant e-security, risks.

The first component of this project was a survey of parents and carers on children's cybersafety and e-security issues. The results of the parents' survey were released in February 2011.

The second component was a teachers' survey that involved over 2000 teachers in government and non-government schools in all States and Territories and at both primary and secondary school level. The report was released in May 2011, and the key findings included:

- Over half of the teachers surveyed indicated that they had experienced at least one cybersafety incident directly reported to them by students in the preceding 12 months;
- The most commonly mentioned types of incidents were: bullying emails, phone calls or text messages; students accessing inappropriate websites, and private information posted on social media sites.
- Almost two thirds of all teachers indicated that they had accessed one or more key cybersafety information sources, including the Australian government's own Cybersmart website.

The findings highlighted that our school systems and teachers are very aware of and concerned about cybersafety and e-security issues for their students and that in the main there are policies and procedures in place to assist teachers with these situations. However more needs to be done to embed a proactive cybersafety culture in schools – to assist teachers and students to prevent such incidents from arising. The reports of both surveys are available on the Department's cybersafety plan research page at:
www.dbcde.gov.au/online_safety_and_security/cybersafety_plan/cybersafety_research

Spectrum Management

Digital Dividend

In June 2010, the Minister for Broadband, Communications and the Digital Economy announced the Australian Government's decision to release 126 megahertz of broadcasting spectrum as Australia's digital dividend.

The Australian Communications and Media Authority (ACMA) announced on 27 May 2011 that spectrum in the digital dividend and 2.5 GHz bands will be auctioned in a single process. On 19 June 2012, the Minister announced that the auction will take place in April 2013.

Following a recommendation from the ACMA in August 2011, on 1 November 2011, the Minister made instruments declaring that 2x45 MHz of spectrum in the digital dividend (700 MHz) band and 2x70 MHz in the 2.5 GHz band will be re-allocated nationally by issuing spectrum licences. The frequencies identified for re-allocation in the 700 MHz band reflect Asia-Pacific band planning arrangements. The frequencies identified for re-allocation in the 2.5 GHz band reflect European planning arrangements for this band. However, the central 50 MHz part of the band, the mid-band gap, will continue to be used for Electronic News Gathering (ENG) in Australia.

Under the *Radiocommunications Act 1992*, the Minister may direct the ACMA to develop procedures to impose competition limits on the sale of spectrum. On 2 February 2012, the Minister directed the ACMA to determine procedures to impose competition limits on the amount of spectrum participants are permitted to acquire in the digital dividend auction. The directions specify limits per bidder of 2x20 MHz for the 700 MHz band and 2x40 MHz for the 2.5 GHz band.

The ACMA will use a methodology for the auction which will allow the ACMA to offer the spectrum as a series of 'lots' for sale. Bidders can parcel the lots they want to bid on into packages. The ACMA is taking an open and transparent approach in engaging with stakeholders as it prepares for the auction. In the lead up to the auction, the ACMA will conduct consultation processes, industry workshops and mock auctions. All information regarding the auction will be published on the ACMA's Engage website (www.engage.acma.gov.au/digitaldividend). Interested parties can be kept informed of the ACMA's auction progress by signing up to the monthly spectrum e-bulletin (http://engage.acma.gov.au/digitaldividend/category/e-bulletin/).

The Government expects the digital dividend spectrum to be cleared of digital broadcasting services by 31 December 2014, thereby enabling new services to commence in the spectrum.

Expiry of 15 year spectrum licences

In the late 1990s the Australian Government commenced auctioning a number of spectrum licences intended primarily for the provision of wireless telecommunications services. The licences had 15-year tenure, flexible conditions and were fully tradeable. Australia was among

the first countries in the world to issue licences on this basis. The first of these key spectrum licences will expire in 2013, with the remainder expiring by 2017.

In the normal course of affairs, these licences would be reallocated on expiry via a price based method, such as an auction. However, the Minister for Broadband, Communications and the Digital Economy has the power to determine classes of services for which reissue to the same licensee would be in the public interest. The Minister also has the power to direct the Australian Communications and Media Authority (ACMA) about matters relating to price.

On 10 February 2012, the Minister announced that he had made the *Radiocommunications (Class of Services) Determination 2012* under subsection 82(3) of the *Radiocommunications Act 1992* (the Act) which provides for the possible reissue of licences to the same licensee. On the same date, the Minister also issued the *Radiocommunications (Spectrum Access Charges) Direction 2012* to the ACMA under subsection 294(2) of the Act, which specifies the value of the spectrum.

The release of these instruments provides greater certainty about the continuity and operation of mobile and wireless communication networks in Australia.

The Australian Communications and Media Authority has commenced examination of licences in the relevant spectrum bands to ascertain whether they have been used in the delivery of services specified in the instruments and are therefore eligible for reissue.

Future management of the 400 MHz spectrum band

The ACMA released a final response to its series of discussion papers on this issue in December 2010; outlining the timeframes and implementation plans for future arrangements for the radiofrequency spectrum in the range of 403-520 MHz Changes include technical changes to reduce congestion in the band, and the introduction of a harmonised government band within the 400 MHz band.

An outcome of the new 400 MHz band arrangements, a number of apparatus licensees will be required to relocate – either elsewhere within the band or to other band. The ACMA acknowledged that some of the changes to the 400 MHz band will cause disruption to users in the band in the short-to-medium term. To assist with transition, and mitigate some of the effects, the ACMA has designed an incentives and assistance program to assist users during the transition. These include the financial incentives of a 50 percent reduction in the apparatus licence tax component of their annual licence fee for specified licensees for a specified time. To make the incentives available the ACMA amended the *Radiocommunications (Transmitter*