The Technology, Media and Telecommunications Review

Fifth Edition

Editor
John P janka

Law Business Research

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EDITOR'S PREFACE

This fully updated fifth edition of *The Technology, Media and Telecommunications Review* provides an overview of the evolving legal constructs that govern the issues facing lawmakers and regulators, as well as service providers and new start-ups, in 29 jurisdictions around the world.

As noted in the previous edition, the pervasive influence of internet and wireless-based communications continues to challenge existing laws and policies in the TMT sector. Old business models continue to fall by the wayside as new approaches more nimbly adapt to the shifting marketplace and consumer demand. The lines between telecommunications and media continue to blur. Content providers and network operators vertically integrate. Many existing telecommunications and media networks are now antiquated – not designed for today's world and unable to keep up with the insatiable demand for data-intensive, two-way, applications. The demand for faster and higher-capacity mobile broadband strains even the most sophisticated networks deployed in the recent past. Long-standing radio spectrum allocations have not kept up with advances in technology or the flexible ways that new technologies allow many different services to co-exist in the same segment of spectrum. The geographic borders between nations cannot contain or control the timing, content and flow of information as they once could. Fleeting moments and comments are now memorialised for anyone to find – perhaps forever.

In response, lawmakers and regulators also struggle to keep up – seeking to maintain a 'light touch' in many cases, but also seeking to provide some stability for the incumbent services on which many consumers rely, while also addressing the opportunities for mischief that arise when market forces work unchecked.

The disruptive effect of these new ways of communicating creates similar challenges around the world: the need to facilitate the deployment of state-of-the-art communications infrastructure to all citizens; the reality that access to the global capital market is essential to finance that infrastructure; the need to use the limited radio spectrum more efficiently than before; the delicate balance between allowing network operators to obtain a fair return on their assets and ensuring that those networks do

not become bottlenecks that stifle innovation or consumer choice; and the growing influence of the 'new media' conglomerates that result from increasing consolidation and convergence.

These realities are reflected in a number of recent developments around the world that are described in the following chapters. To name a few, these include liberalisation of foreign ownership restrictions; national and regional broadband infrastructure initiatives; efforts to ensure consumer privacy; measures to ensure national security and facilitate law enforcement; and attempts to address 'network neutrality' concerns. Of course, none of these issues can be addressed in a vacuum and many tensions exist among these policy goals. Moreover, although the global TMT marketplace creates a common set of issues, cultural and political considerations drive different responses to many issues at the national and regional levels.

I would like to take the opportunity to thank all the contributors for their analytical input into this publication. In the space allotted, the authors simply cannot address all of the numerous nuances and tensions that surround the many issues in this sector. Nevertheless, we hope that the following chapters provide a useful framework for beginning to examine how law and policy continues to respond to this rapidly changing sector.

John P Janka
Latham & Watkins LLP
Washington, DC
October 2014

LIST OF ABBREVIATIONS

3G	Third-generation (technology)
4G	Fourth-generation (technology)
ADSL	Asymmetric digital subscriber line
AMPS	Advanced mobile phone system
ARPU	Average revenue per user
BIAP	Broadband internet access provider
BWA	Broadband wireless access
CATV	Cable TV
CDMA	Code division multiple access
CMTS	Cellular mobile telephone system
DAB	Digital audio broadcasting
DECT	Digital enhanced cordless telecommunications
DDoS	Distributed denial-of-service
DoS	Denial-of-service
DSL	Digital subscriber line
DTH	Direct-to-home
DTTV	Digital terrestrial TV
DVB	Digital video broadcast
DVB-H	Digital video broadcast – handheld
DVB-T	Digital video broadcast – terrestrial
ECN	Electronic communications network
ECS	Electronic communications service
EDGE	Enhanced data rates for GSM evolution
FAC	Full allocated historical cost
FBO	Facilities-based operator
FCL	Fixed carrier licence
FTNS	Fixed telecommunications network services
FTTC	Fibre to the curb

FTTH	Fibre to the home
FTTN	Fibre to the node
FTT*x*	Fibre to the *x*
FWA	Fixed wireless access
Gb/s	Gigabits per second
GB/s	Gigabytes per second
GSM	Global system for mobile communications
HDTV	High-definition TV
HITS	Headend in the sky
HSPA	High-speed packet access
IaaS	Infrastructure as a service
IAC	Internet access provider
ICP	Internet content provider
ICT	Information and communications technology
IPTV	Internet protocol TV
IPv6	Internet protocol version 6
ISP	Internet service provider
kb/s	Kilobits per second
kB/s	Kilobytes per second
LAN	Local area network
LRIC	Long-run incremental cost
LTE	Long Term Evolution (a next-generation 3G and 4G technology for both GSM and CDMA cellular carriers)
Mb/s	Megabits per second
MB/s	Megabytes per second
MMDS	Multichannel multipoint distribution service
MMS	Multimedia messaging service
MNO	Mobile network operator
MSO	Multi-system operators
MVNO	Mobile virtual network operator
MWA	Mobile wireless access
NFC	Near field communication
NGA	Next-generation access
NIC	Network information centre
NRA	National regulatory authority
OTT	Over-the-top (providers)
PaaS	Platform as a service
PNETS	Public non-exclusive telecommunications service
PSTN	Public switched telephone network
RF	Radio frequency
SaaS	Software as a service
SBO	Services-based operator
SMS	Short message service
STD–PCOs	Subscriber trunk dialling–public call offices
UAS	Unified access services
UASL	Unified access services licence

UCL	Unified carrier licence
UHF	Ultra-high frequency
UMTS	Universal mobile telecommunications service
USO	Universal service obligation
UWB	Ultra-wideband
VDSL	Very high speed digital subscriber line
VHF	Very high frequency
VOD	Video on demand
VoB	Voice over broadband
VoIP	Voice over internet protocol
W-CDMA	Wideband code division multiple access
WiMAX	Worldwide interoperability for microwave access

Chapter 26

TAIWAN

Arthur Shay and David Yeh[1]

I OVERVIEW

Taiwan has one of the most developed telecommunications sectors in Asia, with significant strengths in cable television, broadband technology and the online gaming industry all attracting foreign attention. In addition to its strategic importance in R&D, Taiwan manufactures many ICT products as a result of its strong resources in the semiconductor industries. European companies are yet to exploit these resources, with the United States still making the lion's share of the investment into the country.

Most state-of-the-art technologies and infrastructure have been present in the telecommunications market since 2003; fibre optics have gradually replaced xDSL for broadband access service, 3G operations enjoy the majority of market share, along with GSM and CDMA services, thanks to the various smart devices flowing into market; 4G services are desirable and now available to the 23 million people throughout the Taiwan island and becoming an MVNO has proven to be a fast track for new players tapping into the emerging consumer market.

Commercial terrestrial TV and radio services were mainstream in the media market from the 1960s to 1990s. Political liberalisation in the early 1990s, accompanied by the wide distribution of cable TV systems on the island, changed the media landscape forever. By 2000, following the widespread deployment of satellite transponders and the introduction of DTH services, cable TV systems (which were given operation licences in 51 franchise areas) had dramatically grabbed a national market share of more than 70 per cent for media and entertainment for an extremely low fee.[2] Competition, however, did

1 Arthur Shay is a senior partner and David Yeh is a consultant at Shay & Partners.

2 A cable TV subscriber (in most cases, a household) paid less than NT$17 per month for a basic service of around 100 channels (including all the premium international channels such as HBO, Cinemax and Star Movie in Asia).

not stop increasing in this expanding market. In 2003, Chunghwa Telecom (CHT), the dominant market player in the telecommunications market, and at the time a state-owned company, launched its 'BIG TV' service, a wall-gardened IPTV service available for ADSL, aiming to establish its position in the national TV viewing market. The cable TV operators in the marketplace, which eventually became five MSOs – Kbro, CNS, TBC, TFN and TOP – through mergers and acquisitions, formed their own industry association and have fought hard to compete with CHT, even though the government has appeared sympathetic to their rival. The cable TV penetration rate in Taiwan hit a record high in 2010, with an average of 85 per cent nation-wide and even more in major metropolitan areas, with more than 90 per cent of TV-owning households estimated to be subscribed to a cable TV service. Nevertheless, the most potent threat has come from the opportunities the internet has brought to both businesses and consumers. MSOs have reported a halt – and even worse, a decrease – in subscription growth, mostly as a result consumers of the younger generation increasingly accessing unlimited free content on the internet.

The Fundamental Communications Act was created in January 2004 to address goals to be achieved during the course of digital convergence. Traditionally, the Telecommunications Act, the Radio and Television Law, the Cable Radio and Television Law and the Satellite Broadcasting Law drew the lines between respective transmission platforms, but the National Communications Commission (the NCC) – an independent regulator established in 2006 for both telecommunications and electronic media – now exercises exclusive power granted by the Fundamental Communications Act converging all the foregoing platform regulations into a combined, single legislation. There is no specific regulation for the internet, but the internet remains a grey area in relation to audio-visual content distribution in the NCC's policy.

The Taiwanese government announced an ambitious plan in December 2010 for the development of digital convergence between 2010 and 2015, which later in May 2012 pushed up its key performance indicators to much higher standards. The Executive Yuan (the cabinet) backs up the NCC's single-law approach mentioned above and identifies the following key performance indexes as goals to be achieved:

a 100 per cent of national households with access to 100Mb/s broadband service via a fixed network by the end of 2013;
b 100 per cent of cable TV subscribers with access to digital cable TV service by the end of 2014;
c 7.2 million FTTH users by the end of 2015;
d 11 million mobile or wireless broadband users by end of 2015; and
e 50 per cent penetration rate of IPTV at national level by end of 2015.

II REGULATION

i The regulators

The NCC is the main authority dealing with telecoms, audio-visual media distribution and the internet, operating in addition to:

a the Ministry of Transportation and Communications (MOTC), which has exclusive power over spectrum allocation, the numbering plan and relevant policy

planning, such as IP addresses based on a decision entered into by the Executive Yuan in 2007; and

b the Ministry of Culture, which is co-regulator in the fields of radio and television regardless of transmission type.

The NCC was appointed by the Executive Yuan as the regulator for personal data protection in relation to internet matters, but it in November 2011 officially refused to take on such responsibility, even though it does regulate internet businesses in the form of type II telecoms operators subject to the Telecommunications Act.

ii Regulated activities

Licence control has been retained as major measure for regulation on FBOs and SBOs in market entry prior to launch of actual services. In the field of telecommunications businesses, specifically for type I operators (FBOs), the permissible businesses, scope of the business, number of licences, and restriction to the businesses must adhere to the order given by the Executive Yuan subject to Article 12 of the Telecommunications Act. Permissible facility-based operations as of 31 July 2014 would include the following:

a fixed networks:
- integrated fixed networks;
- local phone calls;
- domestic long-distance calls;
- international phone calls; and
- circuit leasing including in-land cable and international submarine cable;

b wireless or mobile networks:
- digital low-power wireless phones (such as DECT, Personal Handy-phone System, etc.);
- paging services;
- mobile phones (AMPS, GSM, and CDMA);
- 3G mobile communications (W-CDMA and CDMA 2000);
- wireless broadband access services in which WiMAX is a main application;
- mobile broadband services (specifically intended for 4G LTE); and

c satellite networks:
- satellite TV and radio programme relay and transponder leasing;
- mobile satellite communications; and
- fixed satellite communications.

Specific concessions for respective type I businesses are required. The NCC scrutinises operational plans, which must specifically follow the NCC guidelines in terms of format as well as detail, and inspects the equipment and facilities installed. Type II operators (SBOs) are subject to general authorisations, which in contrast are not heavily regulated.

Terrestrial TV stations and radio stations have been long under strict licence control according to the longstanding Radio and Television Law and the conservative policy on the principle of scarcity in spectrum. Cable TV and radio, not surprisingly, are also highly regulated in terms of both franchise area and national expansion despite

the NCC's attempt to bring competition into the oligopoly market by offering entries to local new players.

The NCC has the final say on applications for cable TV franchises and operational licences although the local governments in designated franchise areas and consumer advocates would normally be invited in one of the three rounds of review.

Satellite broadcasting systems or DTH operators have so far enjoyed less regulation while applying for their landing licences[3] due to their small share in the audio-video distribution market. Satellite TV channel providers, however, have been forced to wait to receive landing licences for generally four to six months after filing applications. It is common that much of the advice made by the reviewers engaged by the NCC to view operational plans submitted by the operators is taken and adopted into the original plan in order to improve the outcome.

In principle, only licence holders of facility-based operations are qualified to be assigned the radio spectrum by the NCC necessary for their respective approved services. Legally speaking, there are no spectrum licences independent of the above concessions.

iii Ownership and market access restrictions

Foreign ownership

In the telecoms sector, foreign direct investment in a single type I telecoms operator may not exceed 49 per cent of total equity shares and there may not be more than 60 per cent in total of direct and indirect foreign investments.

In the media sector, foreign ownership is prohibited in terrestrial TV stations and radio stations. For investment in cable system operators, the total foreign ownership must be below 60 per cent, and foreign direct investment is restricted to legal entities only and may not exceed 20 per cent of total shareholding. Foreign satellite broadcasters, channel operators, content providers and DTH service operators are able to receive landing licences either by setting up a branch or appointing a local agent for compliance with the relevant administrative regulations. Where foreigners invest in Taiwanese satellite broadcasting businesses, a cap of 50 per cent on total equity shares applies.

No restriction is placed on foreign investment in internet-related businesses.

Cross-ownership

In July 2007 the authority amended a specific restriction on terrestrial TV stations and radio stations of no cross-ownership from newspapers or other terrestrial TV and radio stations of more than 50 per cent of total shareholding in a licensed operator.

Similarly, the NCC has imposed restrictions on cross-ownership between cable MSOs and satellite channel operators to minimise the effects of vertical integration in the cable TV market.

3 Government approvals given for satellite broadcasters as well as channel operators to supply their programme feeds into the territory of Taiwan.

Other ownership restriction

Governments, political parties and their employees and trustees, may not invest or hold any property interest in terrestrial TV stations, radio stations, cable TV systems, satellite broadcasting systems or satellite TV channels.

Chinese investment in type I telecoms businesses, broadcasters, cable systems, satellite broadcasting systems, satellite TV channels, and the other audio-video distribution services are expressly banned.

Limitations on market access

As previously mentioned, there is no open market for type I telecoms business; only those specifically addressed in the open list announced by the Executive Yuan are entitled to market access.

Cable TV system operators were also subject to the NCC's order prior to July 2012. The NCC opened all of the franchised areas for new players and allowed incumbents to cross-over franchises from 27 July 2012.

iv Transfers of control and assignments

Licences are not transferable independent of the entities awarded.

Mergers and acquisitions between type I telecoms operators are subject to broad review by the NCC before they take place. The same is true in the case of broadcasters, so a merger or acquisition of shares of a terrestrial TV station or radio station must first receive a permit from the NCC. Pursuant to NCC's schedule updated in 2013, the review process at the NCC could take no less than six months. It is also worth noting that the introduction of foreign investment into the cable TV system could trigger a lengthy process, including public consultations and administrative hearings, before the NCC finally makes up its mind. In its latest review, which resulted in a conditional concession for the acquisition of CNS, the largest MSO in Taiwan, NCC took 18 months. According to NCC's press release, this time was spent evaluating industry policy, effects on relevant markets, diversified cultural development, freedom of speech and the public interest.

The NCC executes the *ex ante* regulation while the Fair Trade Commission (FTC) enjoys parallel power in approving mergers or acquisitions among telecom operators and media players from an antitrust point of view. Such FTC reviews have usually been efficiently processed and are normally completed in less than three months.

III TELECOMMUNICATIONS AND INTERNET ACCESS

i Internet and internet protocol regulation

Some IP-based services have been defined as telecommunications services and subject to different rules under the Telecommunications Act. For example, VoIP is regarded as a value-added telecommunications service under the type II administration rules. The wall-gardened IPTV, such as 'multimedia on demand' promoted by CHT, has been specifically catered for under the fixed-network administrative rules and therefore is a type I telecommunications service subject to heavy-handed regulation while the internet

TV (or 'web TV') remains unregulated according to NCC's interpretation of the existing laws.

ii Universal service

The universal service in Taiwan covers not only voice telephony but also broadband access services. The NCC has successfully implemented its broadband universal service plans entitled 'Broadband for Villages' and 'Broadband for Tribes'; broadband infrastructure has now been deployed to all villages in more remote areas. The universal service is supported by the universal service fund apportioned by eligible telecommunications operators (that is, all type I telecoms operators and special type II operators). The broadband universal service subsidised the construction of broadband infrastructure and use of broadband services at local schools as well as public libraries in accordance with Article 11 of the Telecommunications Universal Service Regulation.

iii Restrictions on the provision of service

The prices of type I telecoms services charged to end users (retail price) are regulated. Any operator with significant market power must submit a primary rate plan for prior approval by the regulator. According to Articles 21 and 22 of the Telecommunications Act, telecom operators may not refuse to provide services without any legal cause nor discriminate on the basis of the content they carry or their customers. Network operators are encouraged by the authorities to adopt a self-regulation approach for monitoring and controlling content, applications and services accessed by their network users with regard to telecom fraud, spam e-mail, protection of minors, etc. The Minors' Welfare and Rights Protection Law, in its latest version of Article 46, has imposed a direct responsibility on ISPs to assist relevant authorities with internet content surveillance. ISPs must take all necessary measures to restrict minors from accessing certain sites or content, or remove the content upon receiving notice from a competent authority that the identified online content or link is harmful to the physical or mental health of minors.

iv Security

The Communication Security and Surveillance Act promulgated in 1999 defined the scope of government's access to private communications including but not limited to texts, voice, pictures, graphics, and other messages carried through electronic communications and detailed how the due process must be achieved. Article 7 of the Telecommunications Act in the meantime provided parallel support allowing legal interception made according to the above authority.

The construction and deployment of telecommunications networks are required to be in compliance with the Communications Security and Surveillance Act. Telecommunications operators must cooperate with enforcement officers in matters of legal interception authorised by writs of surveillance issued by competent judges. Article 14 of the Communication Security and Surveillance Act and Article 26 of its enforcement rules require telecom operators to render every assistance needed for the purposes of surveillance, including the provision of encryption keys and decoding software to the satisfaction of the Investigation Bureau under the authority of the Ministry of Justice or the National Police Administration under the authority of the Ministry of Internal

Affairs. Subject to the same regulation, all of the licensed operators must be equipped with wire-tap capabilities acceptable to the aforementioned agencies and then approved by the NCC prior to receiving their operation licences.

Police, prosecutors and the national security agency shall apply for writs of surveillance in relation to investigation into specific crimes such as treason, corruption, money laundering, smuggling, bribery, insider collusion, organised crime and other felonies for which the penalty is not less than three years in prison. The approved surveillance shall be at all times subject to competent court review in order to determine if it should be called off or terminated. Other than in the case of treason, where the surveillance may last as long as one year, any surveillance conducted under court approval may last, at most, for 30 days.

The Personal Data Protection Law came into effect in 1995, and exactly followed the OECD guidelines on the protection of privacy and transborder flows of personal data; it was amended in May 2010 to further strengthen the protection of personal data and privacy with the introduction of class actions, and by giving individuals who have suffered abuse of personal data or unlawful collection various rights to claim in civil and criminal actions.

In response to growing cybersecurity concerns, in 2001 the Executive Yuan implemented the 'National Information and Communication Infrastructure Security Mechanism Plan (2001–2008)', which established the National Information and Communication Security Taskforce and the Information and Communication Security Technology Centre as executive arms. Further, in 2009, an amendment was made, which became the 'National Information and Communication Security Development Plan (2009–2012), calling for collaboration among industry players in, *inter alia*, the telecommunications, energy, and electricity sectors, to work with relevant government agencies to protect sensitive infrastructures from cyberattacks and hackers.

IV SPECTRUM POLICY

i Development

The use of spectrum in the 20th century had previously been affixed to specific telecommunications businesses or broadcaster licences, and associated with designated technologies. In the Fundamental Communications Act 2004 it became a written law for the first time that the spectrum allocation and assignment must conform to principles of fairness, efficiency, convenience, harmony, and technological neutrality. Spectrum use was reviewed by both the MOTC and the NCC in order to free up more spectrum for new services. Digital dividends are thus clearly discernible typically in the 700MHz band and the government is continuing to move existing users toward higher bands for upcoming allocation of these bands for new services.

ii Flexible spectrum use

Many attempts have been made in terms of enabling more flexible use of spectrum such as introduction of WiMAX applications in the 2.5GHz/2.6GHz bands, and also the trial run of mobile TV in the 600MHz band (which was later renamed by the NCC the 'mobile multimedia' service) but did not come to fruition. The NCC has been freeing up

more spectrum for licence-exempt use under certain regulatory requirements. Wi-Fi is an example, which has been deemed a useful alternative to ease the great need for the 3G bandwidth needed to handle the massive use of mobile internet services.

iii Broadband and next-generation mobile spectrum use

The NCC announced on 15 May 2013 its 4G auction that three frequency bands – 700MHz, 900MHz and 1800MHz, which are equivalent to the bandwidth 135MHz x 2 – will be released for simultaneous-multiple-round auction and then assigned to successful bidders of mobile broadband service licences (estimated to number between four and eight). The licence term shall begin on the date of issuance and last until 31 December 2030.

According to the definition given by the NCC in its new rules set for mobile broadband service, a 'mobile broadband system' shall consist of:

a high-speed base stations with a download speed of not less than 100Mb/s under conditions of 15MHz bandwidth;

b relevant mobile communications equipment provided by operators using the frequencies allocated during this licensing; and

c the mobile communication technical standards released by the International Telecommunications Union.

Subject to the NCC's approval, bid winners that are mobile phone business operators may apply to assign to each other, based on the same band and same bandwidth conditions, the 900MHz or 1,800MHz band for which they have obtained a licence within six months of obtaining the establishment preparation permission.

The auction ended on 30 October with unprecedented high bids being submitted. The six winning operators announced by the NCC were:

a Chunghwa Telecom (CHT) — an incumbent, 2G and 3G operator. Although it had to dig deep into its pockets, the telecom firm took 35 MHz x 2. CHT secures B2 and C2 bands, which it uses for 2G services, and additionally the C5 band. CHT is likely to be the first 4G service provider in Taiwan by the end of 2014 because it is the only operator that has clean bands for deployment and therefore there will be no delays caused by negotiations to swap spectrum;

b Taiwan Mobile — an incumbent, 2G and 3G operator. The company won the A4 and C1 bands (currently used by FarEastone for 2G services);

c FarEastone (FET) — an incumbent, 2G and 3G operator. FET won A2, C3 (used by FET) and C4 (currently used by Taiwan mobile). FET and Taiwan Mobile would have to negotiate for a band switch, subject to the NCC's approval;

d Asia Pacific Telecom (APT) — an incumbent, 3G operator. APT will be switching to A1 by end of 2018 from B1, which it currently uses;

e Ambit Microsystems Corporation — a fully owned subsidiary of Foxconn. Ambit Microsystems won the A3 and B3 bands, which are currently used for 2G services operated by CHT, Taiwan Mobile and FET; and

f Taiwan Star Cellular Corporation — a shell company created by Joseph Lee, the former general manager of Taiwan Mobile. His management team were joined by the Ting Hsin Group before close of the auction submission date. While in

the process of bidding, Joseph Lee's team quit and the Ting Hsin Group took full control of this vehicle. Ting Hsin Group is famous for its popular instant noodle market in China and has been active in Taiwan recently for heavy investment in the residential real estate market.

From the six awarded winners, the government received a total of 118.65 billion New Taiwan dollars — 2.3 times more than the base price of 35.9 billion New Taiwan dollars.

Auction winners and bid details

Winner	*Spectrum and base price*	*Final bid*	*Total (Taiwan dollars)*
Chunghwa Telecom	B2: 895–905MHz/940–950MHz (1.6 billion Taiwan dollars)	3.32 billion Taiwan dollars	39.08 Taiwan dollars
	C2: 1,725–1,735MHz /1,820–1,830MHz (3 billion Taiwan dollars)	10.07 billionTaiwan dollars	
	C5: 1,755–1,770MHz/1,850–1,865MHz (3 billion Taiwan dollars)	25.69 billion Taiwan dollars	
Taiwan Mobile	A4: 733–748MHz/788–803MHz (6.9 billion Taiwan dollars)	10.49 billion Taiwan dollars	29.01 billion Taiwan dollars
	C1: 1,710–1,725MHz/1,805–1,820MHz (2.2 billion Taiwan dollars)	18.53 billion Taiwan dollars	
Taiwan Star	B1: 885–895MHz/930–940MHz (1.6 billion Taiwan dollars)	3.66 billion Taiwan dollars	3.66 billion Taiwan dollars
Asia Pacific Telecom	A1: 703–713MHz/758–768MHz (4.6 billion Taiwan dollars)	6.42 billion Taiwan dollars	6.415 billion Taiwan dollars
Ambit Microsystems Corporation (a fully owned subsidiary of Foxcomp)	A3: 723–733MHz/778–788MHz (4.6 billion Taiwan dollars)	6.81 billion Taiwan dollars	9.18 billion Taiwan dollars
	B3: 905–915MHz/950–960MHz (2.1 billion Taiwan dollars)	2.37 billion Taiwan dollars	
FarEastTone	A2: 713–723MHz/768–778MHz (4.6 billion Taiwan dollars)	6.91 billion Taiwan dollars	31.32 billion Taiwan dollars
	C3: 1,735–1,745MHz/1,830–1,840MHz (1.4 billion Taiwan dollars)	12.79 billion Taiwan dollars	
	C4: 1,745–1,755MHz/1,840–1,850MHz	11.72 billion Taiwan dollars	

The NCC expects that within the next five years, up to 500MHz of bandwidth will be available by auction for more mobile broadband services. According to information revealed in a public consultation conducted by the MOTC in May 2013, the 2.6GHz band currently used for wireless broadband access licences (WiMAX licences) is being planned for release either in September 2013, or by the end of 2016. The NCC

then announced on 31 March 2014 that no less than 190MHz of the 2600MHz bands currently used by wireless broadband access operators would be available for mobile broadband services by the end of 2014.

iv Spectrum auctions and fees

Pursuant to Article 48 of the Telecommunications Act, the NCC regulates radio frequency, power, mode of transmission, radio station identification signals and call signs, and other radio spectrum-related matters. The NCC enacts regulations governing the planning and allocation of radio frequency, application procedures, principles of assignment, termination of approval, use administration of radio frequency, handling of interference the standard definition of interference and regulations related to the supervision of radio waves. The NCC further mandates the term of utilisation of frequency, and establishes a fee schedule to collect usage fees from radio frequency users.

Spectrum assignment is made by auction or open bid except in the following cases, subject to the NCC's review, in which a beauty contest approach is taken:

a radio frequencies for the military, police, navigation, ships, amateur radio, government telecommunications, industrial, scientific, medical, low-power radio frequency devices, academic experiments, emergency aid and rescue, and other charity or public uses;

b radio frequencies for mobile communications networks, satellite communications networks, radio broadcast stations or TV stations whose operations are based on the utilisation of specific radio frequencies, which shall be designated at the time of issuance of the operation permit or franchise licence otherwise the networks thereof could not function; and any radio frequency increased for improvement in the quality of local telecommunications; or

c radio frequencies that could be used repeatedly, under certain conditions of use, for the wireless local loop of fixed-line networks, satellite links or wireless microwave links.

The fees for the use of radio frequency spectrum are calculated every year pursuant to the Charge Standard of Utilisation Fee of Radio Frequency. The fees standard varies for permitted types of communications businesses and the frequency spectrum applied, but fees for usage for academic experiments, navigation aid, meteorology, radar, rescue, military purposes or emergency medication may be exempted.

V MEDIA

i Restrictions on the provision of service

Licences for the distribution of audio-visual media are generally regulated on the basis of holding and controlling physical distribution platforms, including terrestrial TV stations; radio stations; cable radio and cable TV systems; and satellite TV transmission systems. The NCC, since its establishment in 2006, has expanded its licence control beyond the platforms to content providers. All of the aforementioned licence holders are required to observe detailed programme and advertisement regulations laid out by the NCC, which basically contain the following:

a content must not violate compulsory or prohibitive regulations under the law;
b content must not impair the physical or mental health of children or juveniles; and
c content must not disrupt public order or adversely affect good social customs.

ii Digital switchover

The NCC completed on 1 July 2012 the digital switchover at a national level from analogue transmission of terrestrial TV. There are five terrestrial TV stations in Taiwan serving around 8 per cent of TV-owning households; there are now 20 digital TV channels offered by existing terrestrial TV stations.

iii Internet-delivered video content

The popular broadband service sponsored by the government as well as the broadband universal service, have taken a huge number of the younger generation away from traditional means of broadcast video distribution (including cable TV). The over-the-top content model, however, does not benefit ISPs, who miss out on a reliable fee-collection mechanism or effective digital rights management.

iv Mobile services

The NCC once had hesitated and subsequently encountered serious failure in 2008 while planning for mobile TV services which could offer subscribers mobile contents via UHF bands at various handsets and mobile devices. Nevertheless upon swift launch of 4G LTE services in the third quarter of 2014, the NCC is now delivering a clear policy response to the public's tremendous demand for mobile media services.

VI THE YEAR IN REVIEW

Everything is being prepared for the end purpose of digital convergence, as declared by the Executive Yuan in its ambitious plan applying between 2010 and 2015. The NCC previously completed draft amendments to the Radio and Television Act, the Cable Radio and Cable TV Act, the Satellite Broadcasting Law and then the Telecommunications Act in 2012 but no progress has been made while the draft amendments have been pending in the Legislative Yuan for review. A draft antimonopoly bill for the media proposed by the NCC in March 2013 is also pending legislative review in the Legislative Yuan.

The NCC has also opened up the market entry of cable TV market to new entrants who are well-placed to bring digital cable TV subscriptions from less than 10 per cent to 100 per cent at the end of 2014.

To prepare a new Communications Convergence Act, the NCC conducted a public consultation on its website between 25 December 2013 and 8 January 2014 regarding issues such as fixed-line bandwidth competition and last-mile equal access. On 13 January 2014 the NCC organised a hearing to which all relevant telecommunications operators were invited to convey their opinions. The NCC released a 26-page document on background and pending issues that sets out all kinds of operation figures for the fixed-line communications market in the past decade and provides competitive analysis. This document also outlines regulatory issues against the background of broadband

service competition arising from cable television digitalisation in order to solicit feedback from relevant operators and consumer groups. The NCC summarised the main factors behind the failure of regulatory measures to promote competition in the fixed-line communications market. Since the local voice service market for fixed-line communications is saturated, there is no incentive to attract new operators to invest in infrastructure to participate in competition.

In spite of service differentiation in the broadband-access market, which has encouraged new operators to invest in and develop relevant infrastructure to provide faster broadband services, new operators are still not granted free right of way under the Telecommunications Act. In addition, few government resources have been committed to last-mile network construction and there has been no government assistance with eliminating difficulties in last-mile network construction.

Significant difficulties also face new operators in developing their own subscriber lines, pipelines and networks (due to lengthy application and deployment times and high sunk costs). They are therefore unable to compete with Chunghwa Telecom, which is the dominant market player in the broadband leased-line market. Although cable television digitalisation can facilitate high-speed broadband services, it cannot compete with Chunghwa Telecom on all fronts due to the legal restriction on franchise areas imposed to prevent market concentration. Due to the lack of more reasonable equal access mechanisms to accompany co-location, new entrants are unwilling to increase their investment in network deployment. Therefore, Chunghwa Telecom continues to monopolise the local-fixed line network market.

The NCC continued to propose that Chunghwa Telecom implement functional and structural separation as a solution to this issue and recommended that Chunghwa Telecom consider the arrangements that it will voluntarily provide. However, Chunghwa Telecom does not support the proposal or recommendation and its labour union representatives and management voiced opposition to the NCC's proposal during the 13 January 2014 hearing.

The ban prohibiting Chinese citizens and legal entities from investing in the Taiwanese telecommunications industry remains subsequent to call off of the share transfer agreement between China Mobile and FarEastone on 12 June 2013. Furthermore, the Transportation Committee of the Legislative Yuan resolved on 17 October 2013 to request that the NCC impose a comprehensive ban on all Chinese-supplied network equipment proposed by 4G operators for system construction. The NCC has openly urged 4G operators that branded companies from China should not be the only sources of base-station equipment, and that not using Chinese brands will not affect the construction schedule of operators. So far, it is known that: Chunghua Telecom uses equipment produced by Ericsson and Nokia; Taiwan Mobile primarily procures equipment from Nokia; FarEastone's 4G equipment is supplied by Ericsson; Asia Pacific Telecom uses Alcatel-Lucent equipment; and Taiwan Star procures equipment from Nokia. Ambit Microsystems is the only operator which has specifically indicated in its application that it will use 4G equipment supplied by Huawei of China. Not surprisingly such plan has been turned downed by the NCC.

VII CONCLUSIONS AND OUTLOOK

As from 1 January 2012, local and long-distance calls from a household fixed-line phone have been charged at 1.60 New Taiwan dollars for three minutes. CHT had been under pressure from the NCC and legislators, and the charge for long-distance calls has been reduced from 5.70 New Taiwan dollars, which is exactly the same as the local call rate. The charge for both local and long-distance calls has been changed to 1 New Taiwan dollars per three minutes during discounted time slots. As a result, no distinction is made between the tariffs for local and long-distance calls nationwide, which also include the offshore islands. This tariff is the lowest local call tariff in the world.

With 12.8 million local phone subscribers in Taiwan – which, according to the NCC, represents a 97 per cent penetration rate – CHT has long been the only local call operator in the country. CHT's statistics reveal that 52 per cent of its subscribers make long-distance calls, and as a result of this tariff reduction for long-distance calls, CHT claimed it could suffer revenue losses of 2.8 billion New Taiwan dollars. However, the NCC refuted this argument on the grounds that inexpensive local calls will prompt consumers to make more local calls rather than using their mobile phones. This argument is based on a past case where telephone calls increased by over 30 per cent when Matsu (a small island close to mainland China) was included within Taiwan's call zone. As far as CHT is concerned, the NCC's decision was not acceptable to its shareholders (the company's foreign shareholding has dropped from a peak of almost 45 per cent to today's 24 per cent). Shares being sold by foreign investors on the stock market are mainly being purchased by large government-controlled funds, making it more difficult for CHT to free itself from the state-owned enterprise role that the government has imposed on it.

The fixed-line telecommunications market was deregulated in 2002. Since then, newly established private operators have been encouraged to enter the local call and domestic long-distance telephone market to compete with CHT (the only incumbent operator at that time). However, the other three fixed-line operators have failed to make substantial progress in network deployment and operation.

The NCC's success in compelling CHT to adopt a uniform tariff for domestic long-distance and local calls is tantamount to a tacit admission that the objective of the second telecommunications liberalisation – which the Directorate General of Telecommunications (the former telecommunications authority) had been attempting to achieve since 2000 – has been aborted. It seems ironical that the NCC secures the CHT from competition by making the fixed-line telecommunications market totally unprofitable. However, the NCC has been determined to do more structural changes than exercising asymmetric regulation against the CHT's monopoly in the fixed-line telecommunications market.

In 2012, due to the stalemate between CHT and its major competitors, including FarEastone and Taiwan Mobile, the NCC did not have any success in resolving the existing disputes regarding network interconnections between major telecommunications operators by amending the existing Regulations Governing Network Interconnections between Telecommunications Enterprises. The NCC then conducted a public hearing on 25 April 2013. The NCC's indication that the focus of this hearing was whether asymmetric regulation of CHT should be conducted by way of enacting amendments

to the current Telecommunications Act has attracted extensive attention in the industry, principally concerning:

a whether internet interconnections should be regulated by additional provisions in amendments to the Telecommunications Act rather than by administrative decrees from the NCC only;

b whether asymmetric regulation should be adopted in the case of CHT's place in the internet market;

c the terms and qualifications for free internet interconnections should asymmetric regulation be adopted; and

d the regulation of public internet interconnection obligations between free dedicated internet interconnecting parties; and whether the internet interconnection bandwidth fees under the wholesale prices set forth in the existing Regulations Governing Tariffs of Type One Telecommunications Enterprises (including the fees for the creation, change or termination of interconnections) should be incorporated into the Regulations Governing the Network Interconnections of Telecommunications Enterprises.

The NCC does have many more plans about asymmetric regulation of CHT.

In May 2012 the NCC disclosed an amendment to the existing Telecommunications Act for public comment, which would grant the NCC a mandate under the Act to compel CHT to separate some of its functions, so that its network access arm becomes an independent business unit providing rental services to all telecommunications operators – including, of course, its rivals. The draft failed the review conducted by the Executive Yuan in October 2012. At the time, the government held a direct shareholding of around 30 per cent in CHT. When a new commission was appointed and took office in August 2012, it was widely suspected that the NCC might take a very different view towards CHT's dominant power in the fixed-line telecommunications market. It turns out, however, that the position is not different at all. In its recent on 20 February 2013, the NCC reiterated its commitment to imposing antitrust measures on CHT. It also proposed alternatively that CHT should always offer equal prices for the provision of access and circuit leases among its business units, as well as to rival competitors, if functional separation is not approved by the Executive Yuan. On 16 July 2013 the Executive Yuan officially concluded that the NCC should reconsider its draft proposal to the amendment of the Telecommunications Act. This is the second time in the past six months that the NCC failed to convince the Executive Yuan of its communications policies. Since then the NCC has not come up with a new draft of the Communications Convergence Act in compliance with the Executive Yuan's request at the end of March 2014. On 2 July 2014 the NCC released the draft Recommendations and Strategies Concerning Legal Amendments Relating to Communications Convergence, planning to solicit public opinion in the upcoming months.

According to the NCC's explanation, the existing Telecommunications Act, Cable Radio and Television Act, Radio and Television Act and Satellite Broadcasting Act will be further amended to catch the evolving trends of digital convergence. However, in so doing, one or multiple legal proposals reflecting digital convergence concepts may be submitted to the Executive Yuan for approval.

The NCC has stressed that when laws and regulations are amended in future, deregulation will be pursued along with encouragement of innovations, participation and investment, while the regulatory framework will be geared towards flexible layering. The convergence acts initially conceived by the NCC consist of four laws that are not yet officially named. Future legal amendments will focus on the following areas:

The existing Telecommunications Act will:

a reduce market entry barriers;
b continue enforcement of asymmetrical control;
c encourage infrastructure sharing;
d promote effective and efficient use of frequencies; and
e ensure personal data protection.

The Cable Radio and Television Act will:

a transform cable television systems into open platforms for video transmission;
b ease control over mergers and acquisitions, multiple franchise operations and cross-sector competition with telecoms operators; and
c enforce heavy-handed regulation on channel line-ups and programme licensing practice.

Consolidation of the existing Radio and Television Act and the Satellite Broadcasting Act will:

a grant licences on a per-channel basis according to their specific regulation;
b ease requirements for self-deployed network infrastructure; and
c encourage and promote self-regulation among industry players with respect to content regulation.

In the Communications Convergence Act the NCC has devised a scenario where all existing communications platforms, channels and media are highly converged and has planned to incorporate into the scope of regulation all service types that have emerged or may potentially emerge between telecommunications and existing radio and television.

There is no implementation schedule for the new convergence acts that can be inferred from the NCC's written statement. The proposed framework of the draft Communications Convergence Act once again indicates the NCC's serious intention to respond to the challenges brought by overwhelming digital convergence. However, it also steps on the line dividing authorities, including:

a the Ministry of Culture;
b the Ministry of Transportation and Communications;
c the Ministry of Interior Affairs;
d the Ministry of Finance; and
e the Ministry of Health and Welfare.

There are many reservations about whether such a huge and controversial legislative plan can succeed.

Appendix 1

ABOUT THE AUTHORS

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Arthur Shay heads the TMT team of Shay & Partners. He specialises, in addition to TMT, in intellectual property rights, and mergers and acquisitions. His experience with leading international companies includes advising multinational telecom companies on corporate and regulatory issues in Taiwan including consortium formation and bidding on GSM/PCS, liberalisation of international submarine cable landing station, VoIP, and 3G services and a full range of clients including DTH operators, multiple cable system operators, internet data centres, internet portals, ASPs and ICPs. Mr Shay is a frequent speaker at various communications law forums on regulatory reform and market investment. He has been commended that he 'understands his clients' businesses well and his advice is always very helpful.' (Chambers Asia-Pacific 2013). Mr Shay was appointed the president of Globalaw for 2011, the international law group, which is an independent law firms network comprised of 112 law firms in 160 cities.

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David Yeh is a consultant in the TMT team of Shay & Partners. He specialises in telecommunications and media law, cyberspace and e-commerce, intellectual property, antitrust and competition law. His practice focuses on high-tech industry transactions with an emphasis on telecom and broadcasting, including regulatory analysis, IPR licensing, drafting contracts and official documents. He has assisted international cable programme providers in applying for pay-channel licences from the broadcasting authority and represented domestic cable operators and multinational satellite operators on regulatory compliance matters. He received a degree of SJD from the Maurer School of Law, Indiana University-Bloomington. He also lectures on communication laws as well as copyright issues on the internet in colleges in Taiwan.

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