



**NCC 2022
National
Communications
Performance
Report**

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National
Communications
Commission

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Preface

Communications technology is ever-changing; 5G technology is gradually heading towards 6G and LEO development and applications have become the trend of communications industry. LEO complements the existing broadband network, strengthens resilience of communication networks, and can serve as a remote network during disasters and emergencies. It is critical for national security or public interests; hence, all nations are actively developing LEO. An overview of market structure shows that international telecom carriers are deploying networks via mergers or collaboration to reduce investment costs, and improve communications service quality.

Furthermore, the era of digital convergence urges the conventional media to adapt to the Internet. Emerging services and audiovisual content have greatly affected conventional media. In order to reduce this impact on conventional media and to help them compete with emerging industry, the Internet advantage has been considered to harmonize the regulations internationally. However, issues such as internet governance, disinformation, online scams, profits sharing between digital platforms and news media have emerged, and these issues become issues worthy of attention for international regulatory agencies.

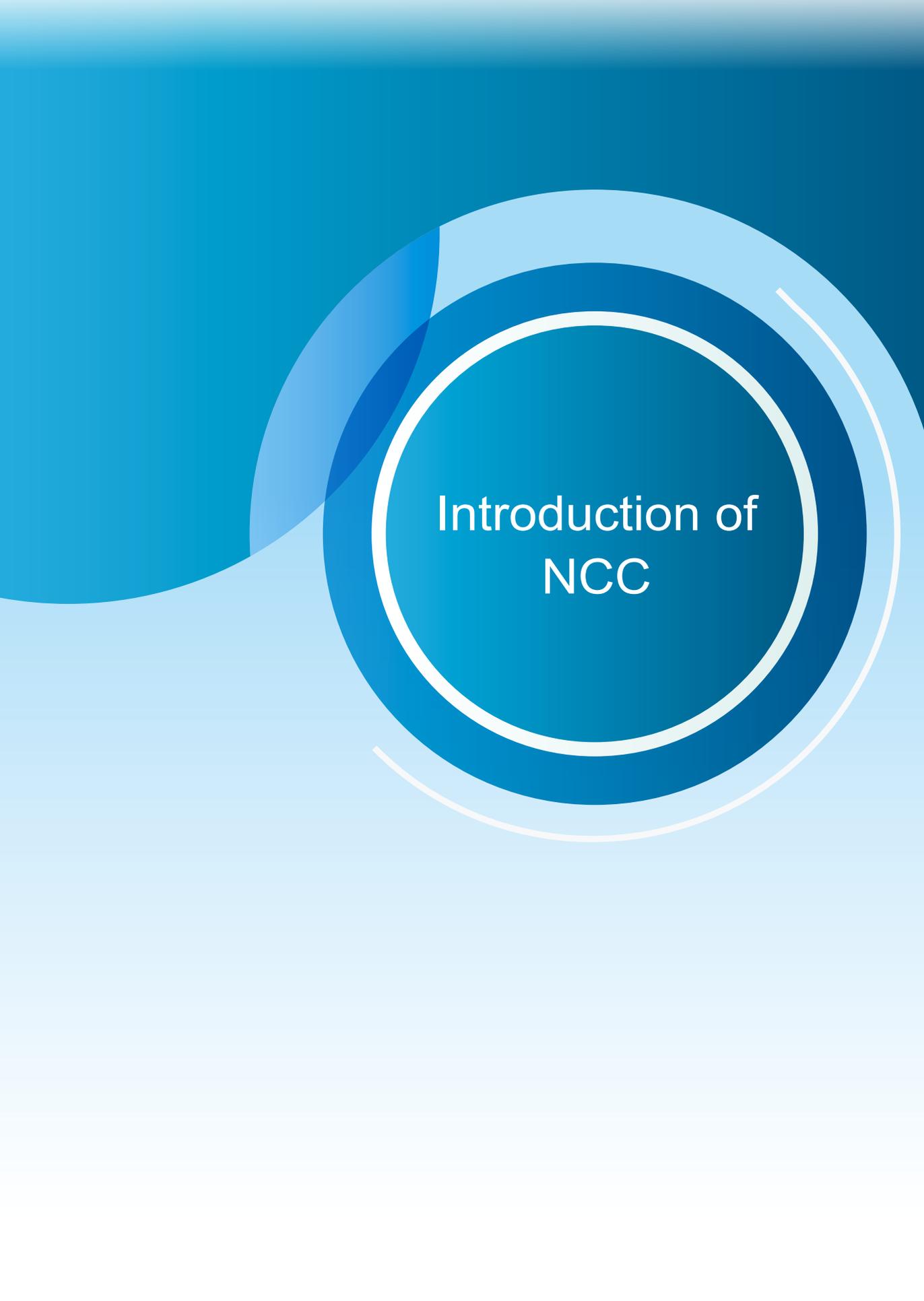
Currently, in Taiwan, we face rapid changes in the communications industry: telecom operators competing with competitors in other service sectors, mergers of telecommunication operators, OTT, and emerging TV services on the existing media market have all become widely apparent. In order to adapt to these changes, NCC connects with all units, ensure fair competition, develop innovative application services for the market,

and guarantee the rights of communications of citizens. We implement consumer protection mechanism, establish an environment with universal radio and television universal service, and improve the media literacy and autonomy mechanism in order to enhance development of communications industry.

This 2022 National Communications Performance Report consists of two chapters:

Chapter 1 “Performance of Communications Policies” reveals the achievements and efforts of all our staffs during 2022. In addition to enhancing innovative application service development, service competition infrastructure and industrial convergence development, NCC aims to protect consumer rights and promote international interaction and collaboration. Two recent examples were our exchanges with Brendan Carr, Commissioner of the Federal Communications Commission (FCC), and the head of Communications Regulatory Commission of Mongolia (CRC).

Chapter 2 “Prospects and Visions” introduces that NCC aims to adapt to the trend of digital convergence and the internet which has created a concept of global village, we have been exposed to various kinds of social problems and different kinds of services. In order to respond appropriately, internet governance has come into our scope of responsibility. The Internet Communications Office has been established to observe the trend of communications technology and domestic needs from the public, and ensure the accountability of internet platforms, freedom of speech, user rights, and internet literacy empowerment. Our aim is to create a safe, reliable internet environment.



Introduction of NCC

In response to the development of global communications convergence and the subsequent changes of regulatory supervision, existing affairs of communications in Taiwan were integrated, and the Fundamental Communications Act and The National Communications Commission Organization Act (the NCC Organization Act) were announced in 2004 and 2005 respectively. Consequently, the NCC was officially founded on February 22nd, 2006.

The NCC is an independent body established in accordance with the Basic Code Governing Central Administrative Agencies Organizations. With reference to communications management experiences in advanced economies, the NCC integrated authorities from Directorate General of Telecommunications, Ministry of Transportation and Communications, and Government Information Office, of the Executive Yuan and specified the management and supervisory roles in telecommunications and broadcasting industries, so that communications supervision can become coordinated under one agency.

In response to the challenges by the wave of digitalization, Taiwan established the Ministry of Digital Affairs(MODA) on August 27, 2022. The NCC cooperated with the Executive Yuan to restructure the organization. Businesses of telecommunications infrastructure, information and communications security, spectrum management, digital inclusion, and international exchange on digital development are now transferred to the Ministry of Digital Affairs. The NCC is committed to policy planning, system and equipment supervision, market competition, and consumer rights. It is a professional, diverse, and efficient agency for improving the communications industry and environment, as well as enhancing the digital capabilities of Taiwan.

Duties and Responsibilities

According to Article 1 of the NCC Organization Act, the purpose of the NCC is to ensure people's freedom of speech, end political control of the media in order to protect its neutrality, enhance broadcasting standards, ensure fair and effective competition, protect the rights and interests of consumers, respect the rights of minorities and underprivileged groups, promote the development of cultural diversity, and enhance the competitiveness of the nation. In accordance with Article 3 of the same act, the duties and responsibilities of NCC include the following:

- Formulating communications supervisory and internet communications policy, and formulating, drafting, amending, abolishing and implementing laws and regulations pertaining to communications.
- Managing the supervision of operations of communications enterprises and approving and issuing licenses.
- Supervising and managing the establishment of communications networks.
- Reviewing and inspecting communications systems and equipment.
- Regulating the rating system for the content of communications and the internet, and other legally designated matters.
- Maintaining the order of communications competition.
- Presiding over major disputes between communications operators and matters of consumer protection.

- Supervising and handling offshore affairs and international exchanges and cooperation pertaining to communications.
- Supervising and managing communications and internet communication enterprise-related funds.
- Monitoring, investigating, and rulings on communications operations.
- Penalizing and disciplining violations of communications-related laws and regulations.
- Overseeing other matters pertaining to communications.

Organizational Structure of NCC

In response to the organizational reform of the Executive Yuan, the NCC has adjusted its internal organization. In July 2022, the NCC passed the amended Articles 3, 9, and 14 of the National Communications Commission Organization Act, consolidating and establishing new units. Currently, the NCC consists of the Department of Planning, Department of Infrastructure, Department of Platforms and Businesses, Department of Broadcasting and Content, Department of Legal Affairs, Department of Northern Regional Affairs, Department of Central Regional Affairs, Department of Southern Regional Affairs, Secretariat, Personnel Office, Civil Service Ethics Office, and the Budget, Accounting and Statistics Office (Figure 1).

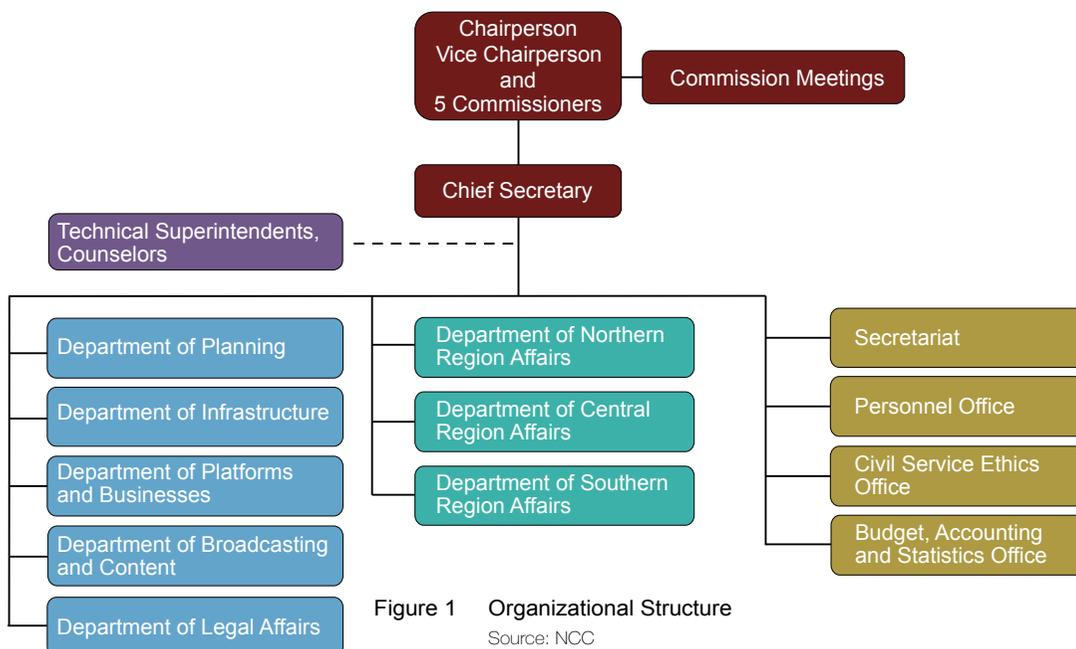


Figure 1 Organizational Structure
Source: NCC

Commissioners

According to Article 4 of the National Communications Commission Organization Act, the NCC shall consist of seven commissioners; all shall be full-time members, serving a term of four years and may serve multiple terms when re-elected. The Premier nominates the candidates and appoints them after being approved by the Legislature. For the nomination, the Premier shall require one to serve as the Chairperson and another one as the Vice Chairperson. The Chairperson of the Commission, represents the NCC externally. The Vice Chairperson is charged with a duty equivalent to that of the 14th level of the senior rank while the other commissioners have the duty comparable to that of a 13th level of the junior rank.

As of December 31, 2022, the Commission consisted of seven incumbent commissioners: Chairperson Yaw-Shyang Chen, Vice Chairperson Po-Tsung Wong, and five commissioners Jiang-Jia Wang, Yi-Hui Wang, Wei-Ching Wang, Lih-Yun Lin and Chung-Shu Chen (listed by the number of strokes of Chinese character).

Commissioners specialize in diverse fields and supervise the promotion of communications policies from regulatory, technical, industrial, and economic perspectives to help build a better environment for the communications industry in Taiwan.

Overview of Administrative Operations

Operations of the Commission Meetings

The NCC is a collegiate independent body that meets primarily to execute its decisions and promote commission-related affairs. As is required by Article 10 of the National Communications Commission Organization Act, commissioners should meet weekly and hold ad hoc meeting if deemed necessary. The meetings are chaired by the Chairperson and decisions made in the meeting shall be enforced upon approval by the majority of all members. For a specific resolution, each member may express concurring or dissenting opinions, which would be released together with the decision. In addition, scholars and experts may be invited to attend the meeting and related authorities, businesses, or groups may be requested to assign representatives to attend the meeting who can state facts or provide feedback. Throughout 2022, the commission met 51 times and reviewed 183 proposals in total.



Performance of Communications Policies

Overview of Communications Market

In 2022, the total revenue of telecommunications was NT\$285bn, over 50% of which was revenue of mobile communications, while 17.42% fell under the revenue of fixed-line internet and value-added service (Figure 2).

As of 2022, there were 35.33 million users of various types of broadband business in Taiwan; among them, mobile broadband (4G and 5G) accounted for 79.95%, optic fiber (FTTx) 11.67%, cable modem 6.14%, ADSL 0.72%, and PwLAN and leasedline 1.52% and 0.004%, respectively (Figure 3).

In 2022, the total account numbers of telecommunication services was NT\$30.15 million, hitting a record high. Instant messaging apps have become ubiquitous. In contrast, the number of local call accounts has decreased year

by year, down to 10.28 million in 2022 while the number of fixed broadband accounts have grown steadily over the past decade. We can also note the public demand for digital applications and high-speed networks has increased since COVID-19 outbreak. The number of fixed broadband accounts reached 6.55 million in 2022 (Figure 4).

The number of 4G accounts decreased from 29.21 million in 2020 to 23.44 million in 2022 while the number of 5G accounts increased from 1.46 million in 2020 to 6.71 million in 2022.

As for the communications market, satellite TV was the main revenue source, but the revenue slightly decreased from NT\$65.4 billion in 2021 to NT\$64.8bn in 2022. The revenue of cable TV decreased year by year from NT\$39bn in 2015 to NT \$33.3bn in 2022. The revenue of terrestrial TV in 2022 was approximately NT9.4bn; revenue of wireless broadcast grew slightly to NT \$5 billion in 2022 (Figure 5).

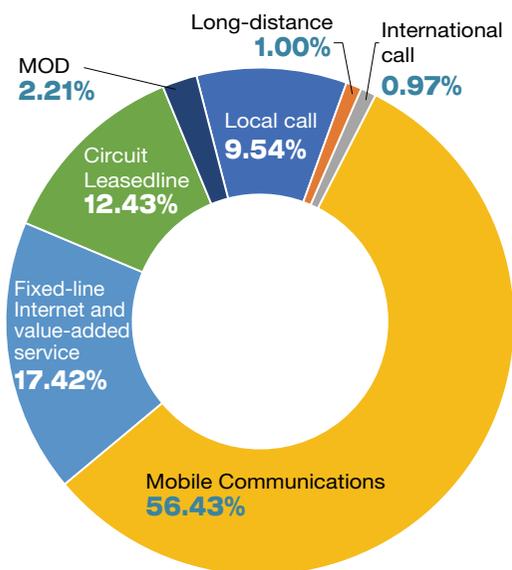


Figure 2 Telecoms service revenue 2022
Source: NCC

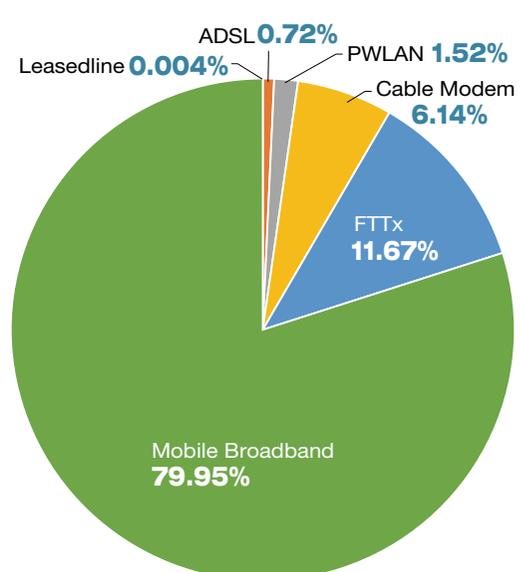


Figure 3 Broadband users in 2022
Source: NCC

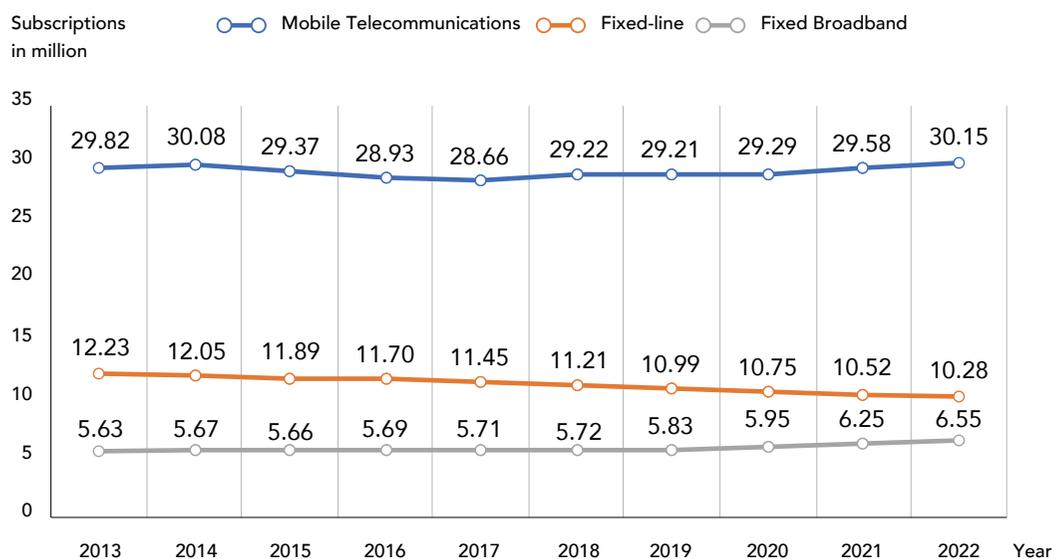


Figure 4 Number of telecommunications subscriptions: 2013 to 2022

Source: NCC

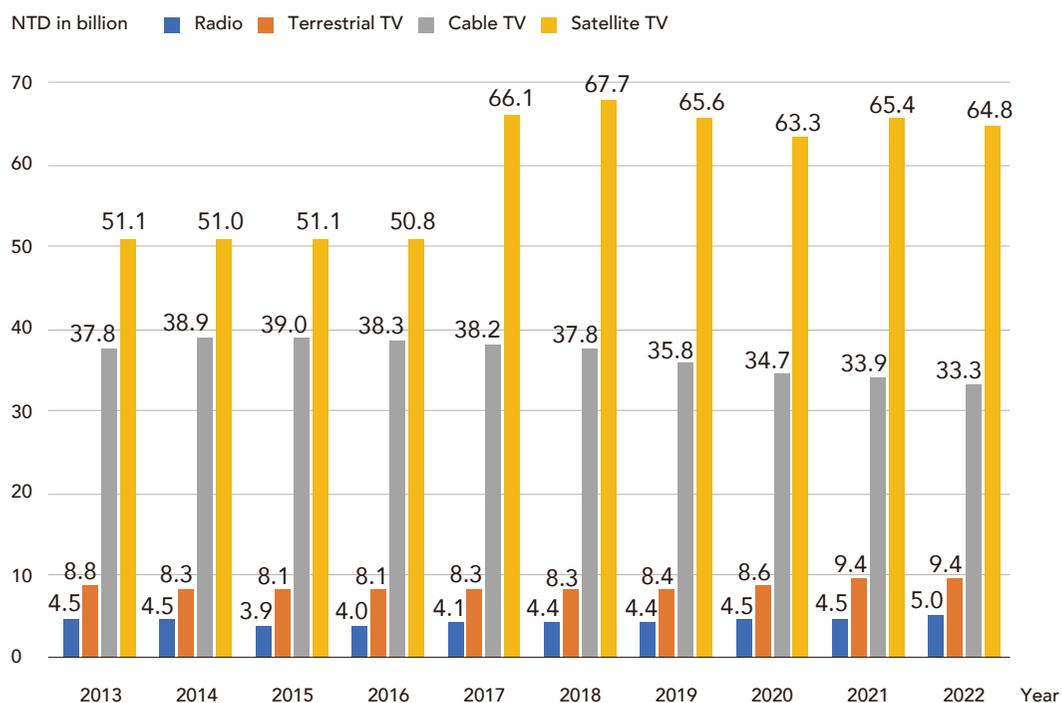


Figure 5 Revenue of radio and television markets: 2013 to 2022

Source: NCC

Ensuring fair market competition

Announcing Significant Market Powers (SMP)

By referring to the practices undertaken in the EU, NCC introduces the market competition evaluation mechanism, which includes ex-ante regulated service markets definition, market competition analysis and then asymmetrical measures. Other service markets were complied with general obligations. As a result, operators are more flexible under the market mechanism, facilitating market competition.

On April 15, 2022, NCC announced that it had defined five specific telecommunications service markets to conduct ex-ante regulated: fixed-line retail services, fixed-line broadband retail services, fixed-line wholesale services, fixed-line voice connection services, and mobile network voice connection services.

Considering that significant market powers (SMP) in different telecommunications service markets affect competition, NCC analyzes the competitiveness of various markets, overall industrial circumstance and service features, also collects relevant information. The SMP of the aforementioned five telecommunications service markets were preliminarily determined, and corresponding measures such as follow-up telecom regulated telecom tariffs, accounting separation, information transparency, and non-discriminatory treatment were arranged.

From December 26, 2022 to February 9, 2023, NCC announced the “recognition of significant market power of specific telecommunications

service market and special control measures.” A public hearing was held on February 9, 2023.

Approving two domestic telecom operators mergers with conditions for consumer rights

Taiwan Mobile applied to merge with Taiwan Star Telecom on January 10, 2022 while FarEastStone applied to merge with Asia Pacific Telecom on March 23, 2022. Considering numerous synergies brought by these two cases, on January 18, 2023, the two mergers were approved with conditions, and the Fair Trade Commission would take the overall market competition into consideration to review the case based on its authority. (Figure6, Figure7, Figure8).

Enhancing the development of the communications industry

Open for technological trials and 5G innovation

NCC encourages operators to perform various experimental tests for 5G vertical applications and relevant technological development. Those operators who undertake the trials may apply for a telecom network exclusive for experiment and R&D, to execute the proof of concept (PoC). Furthermore, those operators who undertake the trials may apply to execute the proof of business (PoB) so as to specifically evaluate the business value and feasibility of the application service.

Telecommunications merger synergies.

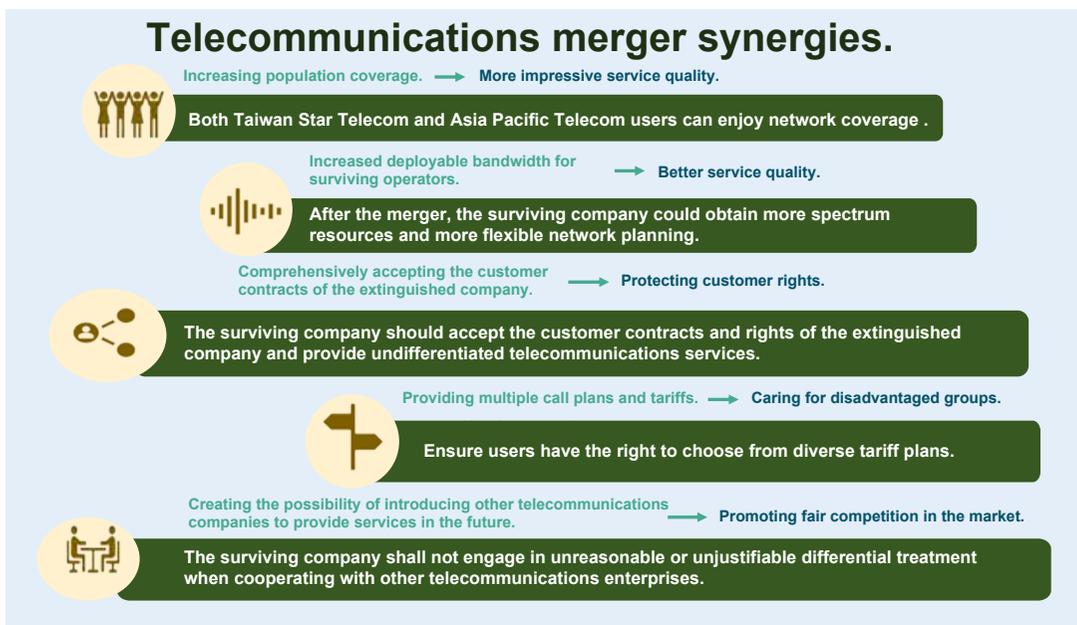


Figure 6 Comprehensive benefits of two domestic telecom operators mergers
Source: NCC

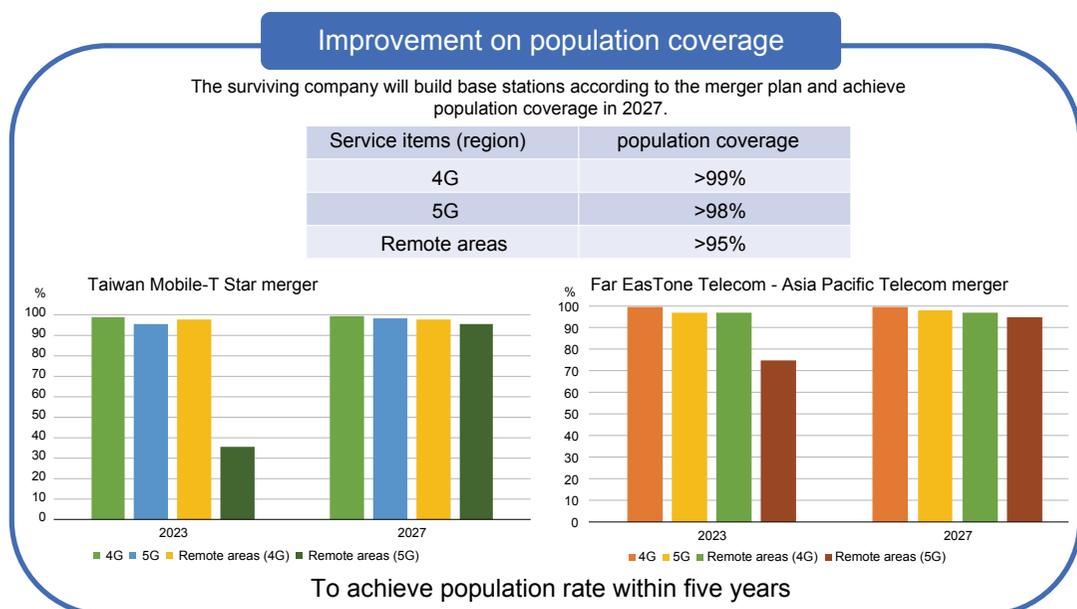


Figure 7 Population coverage improvement after the merger
Source: NCC

Investment in telecommunications infrastructure

-  After the merger, the surviving company could acquire more spectrum resources and greater flexibility in network planning.
-  In the next five years, the surviving company will continue to invest in 4G and 5G telecommunications infrastructure, with an estimated capital expenditure of more than NT\$60 billion.



Figure 8 Investment in telecommunications infrastructure after the merger.

Source: NCC

After releasing of the “Administrative Regulations Governing the Establishment and Use of Dedicated Telecommunications Network for Research and Development Purposes” on July 9, 2020, NCC accepted 117 PoC experiment cases, 60 of them were applications for 5G dedicated frequency and dedicated network (4.8-4.9GHz), while 57 were applications for other experiment frequencies. As of the end of December 2022, the commission had approved 86 experimental networks focused on 5G technology.

Collecting public opinions on satellite communications

The draft amendment of “Application for allocation of radio frequency used for satellite fixed communications” was completed, and NCC planned on how to effectively allocate radio frequency in order to support needs for fixed

satellite communications. Therefore, telecommunications operators in Taiwan can benefit from gaining more development opportunities in emerging domains. NCC strives for enhancing communications resilience and access to communications service for the public through satellite communications. On May 17, 2022, an online public consultation was held; all parties actively engaged in discussion and exchanged opinions on topics related to satellite development¹

Organizing Training Courses for Broadcasting

In order to encourage radio and television operators to produce high-quality programs

¹ The Ministry of Digital Affairs will be in charge of this business. NCC will continue to assist.

and impart accurate information, 14 (onsite and online) professionalism training courses for radio and television practitioners were organized. NCC endeavors to provide up-to-date knowledge, and provide a venue for discussion and experience sharing.

The training was designed for various subjects and professional fields, including “radio and TV business development,” “Gender Equality,” “Personal Data Protection Act,” “Consumer Protection,” “Children and Teenager Rights Protection,” “Privacy and Victim Protection,” “Women and Children Protection and Sexual Crime Prevention,” “Protection of the Rights of People with Disabilities,” “Avoid Spreading Racism and Racial Hatred,” and “Strengthening Internal Control and Autonomy Mechanism of the Program.” A total of 2,732 participants joined the training and training satisfaction was 97.34% (Figure 9).

In addition, for news channels and news producers and broadcasting practitioners, NCC held three workshops on the topic of “Facts Validation and Principle of Impartiality”. These workshops covered ideas about and approaches to check facts, the principle of impartial coverage, and international network platform facts validation tools and approaches, as well as hands-on inspections. A total of 342 people joined the workshops and the ration of satisfaction was 99.27%.

Announcing statistics on observation of TV news reports to evaluate media credibility

In order to ensure the rationality and fairness of news, NCC have observed the broadcasting



Figure 9 TV Operation Development Production and Broadcasting Forum

Source: NCC

of TV news channels since March 2019. The TV news observation report aims to disclose the content, subject and percentage of news reports; previous observation reports are published on our website so that the public can ascertain an overview of communications supervision, and engage in media supervision.

We reviewed the observation report from January to December 2022, which indicated that the ratio of total broadcasting time of specific figures was higher in November, January and May. The news coverage focused greatly on the influence brought by COVID-19 pandemic, especially on new pandemic prevention measures taken by the government. In addition, since Russian-Ukrainian War began in March 2022, news programs have mostly focused on the above issues and the relevant international situation, hence the ratio of specific figures, being covered by news programs is low.

The observation result indicates that the ratio of politicians being covered was high. It is the news often covers major social issues, and the

public would discuss about the politicians in such issues more often. However, while the issues being covered have become more diverse, we observed that the news reports have the tendency to cover artists, celebrities who are not in the political field.

Through the observations of TV news reports, we aim to further enhance the supervision on news transparency, and encourage all parties to engage in ensuring fairness, authenticity and news correctness in order to protect public interest.

Supervising the operation of broadcasting and strengthening the self-discipline mechanism

Through evaluation and license renewal mechanism, NCC urges operators to be self-disciplined and meet the criteria of operation plan. By the end of 2022, there were 186 radio stations, five broadcast TV operators, and 138 satellite broadcast TV operators in Taiwan (operating domestic and foreign satellites, and other types of channels, 304 channels in total). Broadcast TV operators should undertake self-evaluation every three years, and license renewal every nine years, while satellite broadcast TV operators conduct evaluations every three years, and license renewal review every six years.

An online application system was established to streamline the administrative process. In 2022, a total of 32 evaluation cases of satellite broadcast TV operators, 57 license renewal cases of satellite broadcast TV operators, two evaluation cases of broadcast TV, 27 cases of broadcast TV operators, and one license renewal case of broadcast TV were handled.

Holding the forum of “2022 Intro Frontier Beyond”

On October 28, 2022, the Telecom Technology Center (TTC) organized the “2022 Intro Frontier Beyond” (Figure 10). Industrial and academic experts in different domains were invited. Commissioner Yi-Hui Wang and Commissioner Wei-Ching Wang hosted the highlight discussion in the morning and afternoon, respectively. The main topic of the forum was “digital innovation.” By discussing the latest 5G technology implementation and digital innovation in finance, commerce, entertainment, medicine and industrial manufacturing, the industry could ascertain greater opportunities and more progressive thoughts.

Improving communications rights of citizens

Recognizing the telecom operators with special obligations for consumer rights

After consulting with telecom operators, in the previous year, it was determined that telecommunications operators that meet conditions shall bear the conditions of special obligations from Article 17 to 20 of the Telecommunications Management Act (Figure 11) according to the criteria below.

The recognition procedure was completed on August 24, 2022. Recognized telecommunications operators should bear special obligations from September 1, 2022 to August 31, 2023. This outcome would facilitate the mechanism of



Figure 10 Chairperson Yaw-Shyang Chen gave opening remarks

Source: NCC

telecommunications market competition, and offer explicit obligation instructions for telecommunications operators, in order to ensure stable operation and sustainable development of the overall industry.

Reinforcing management of Telecom Consumer Dispute Handling Center

The process for handling complaints has been optimized. Chunghwa Telecom, Asia Pacific Telecom, Taiwan Mobile, FarEastone Telecom, Taiwan Star Telecom, Taiwan Fixed Network and New Century InfoComm Tech were all required to set up the “Telecom Consumer Dispute

Special obligations in Article 17 to 20 of the Telecoms. Management Act

Total business sales of telecom service is over **NTD \$100 million**.

More than **600** telecom disputes, or the number of telecom disputes is among the top 75%.

Use the telecom resource or set the public telecom network.

Figure 11 Special obligations within the Telecommunications Management Act

Source: NCC

Handling Center” according to Section 1, Article 20 of the Telecommunications Management Act. The Center went into operation on July 1, 2022. Taiwan Intelligent Fiber Optic Network and Circles Taiwan (Circles.Life) became members of the Center on September 1.

Consumers may file a complaint to telecommunication operators; if the grievance has not been handled properly, the “Telecom Consumer Dispute Handling Center” can help consumers handle the complaint. If arbitration is required, consumers can request the “Telecom Consumer

Dispute Handling Center” or the consumer service center or judicial office for assistance. (Figure 12).

In 2022, the Center accepted one dispute which was arbitrated successfully. From July to December 2022, a total 3,581 telecom consumer complaints were accepted, including 2,926 regarding mobile services(Figure 13), 454 grievances regarding fixed-line (Figure 14), and 201 grievances associated with other issues. 70% to 80% of the cases were handled adequately during the first stage of the procedure.

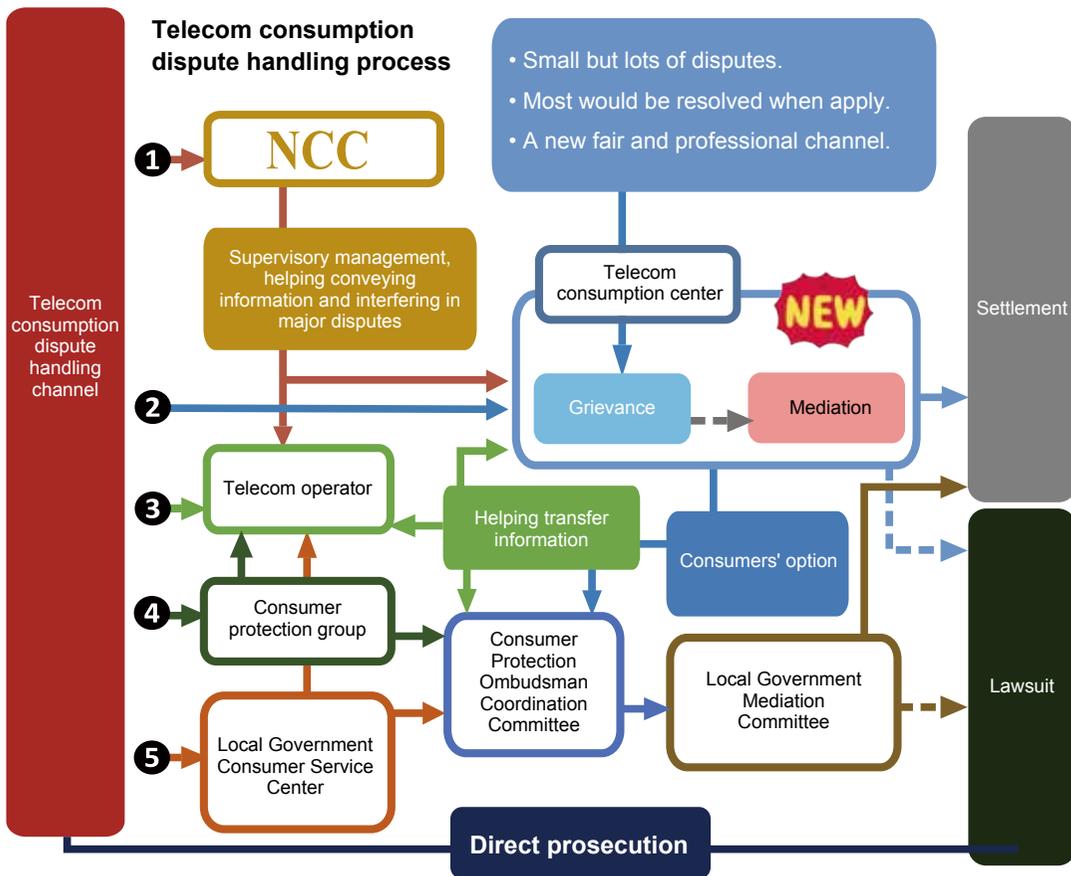


Figure 12 Flowchart of handling telecom consumer disputes

Source: NCC

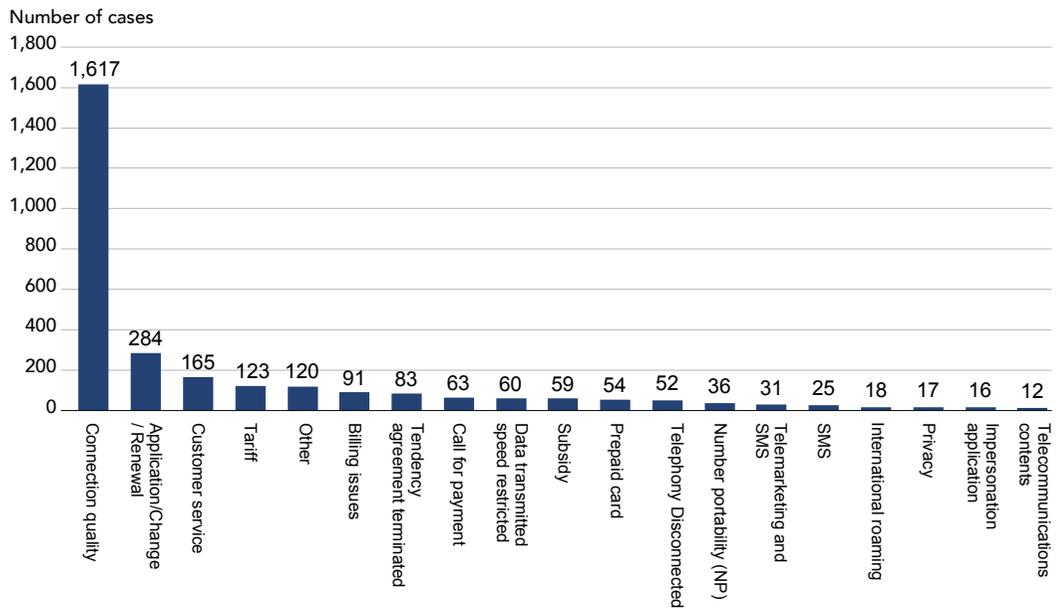


Figure 13 Complaints about mobile communications received by “Telecommunications Consumption Dispute Handling Center” in 2022

Source: NCC

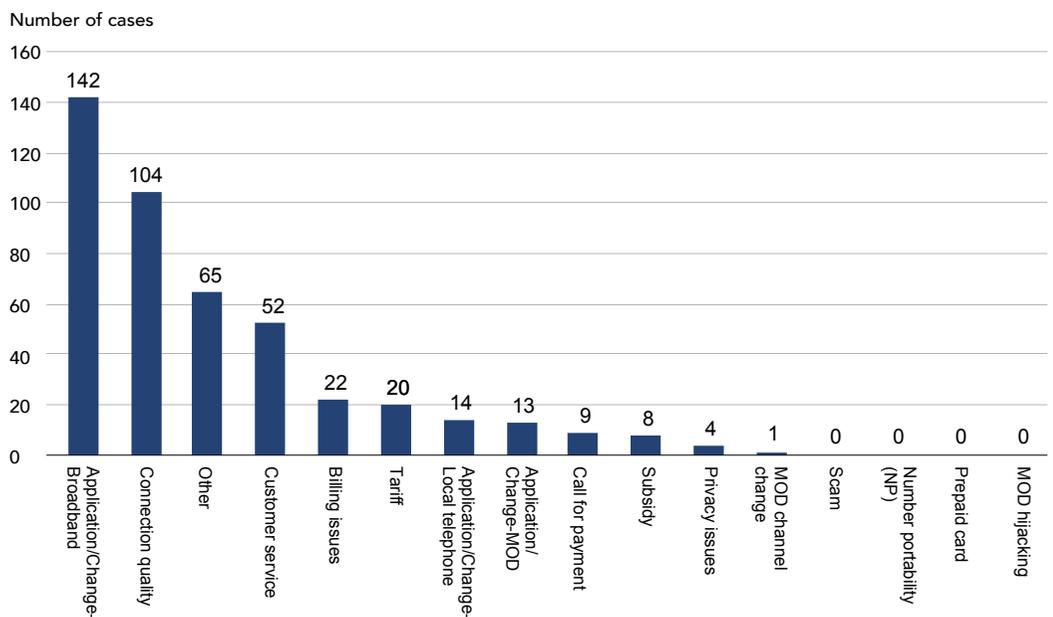


Figure 14 Complaints about fixed-line services received by the “Telecommunications Consumption Dispute Handling Center” in 2022

Source: NCC

An inter-government platform being established to prevent telecom scam

NCC has aligned with the Executive Yuan policy, “Next-generation anti-fraud strategy guidelines” to block scam messages and promote scam prevention via text message. By March 2023, 39.73 million text messages and 18.96 million foreign calls had been blocked, 7,613 phone numbers have been disconnected, and 123.49 million scam-warning text alerts had been sent. Five mobile network providers, four fixed-line operators, four fixed-line leasing providers, four internet access providers (IASP) were supervised to amend telecommunications service (traffic) contracts. If the telecommunication service is involved with scam, telecommunications operators shall suspend or terminate the telecommunications service of the user.

Strengthening the concept of privacy and personal information protection for employees in broadcasting

In order to assist those working in broadcasting to gain better understanding of privacy and personal information protection, NCC convened two seminars in Taipei and Tainan. Twenty experts in industry, government, and academic and research fields were invited to discuss during the seminars, and were able to integrate theory with practice.

Aspects discussed in the seminar included experiences and insights related to the international legal systems, domestic judicial practices, freedom of the press, conflict and response measures related to privacy protection, and discussion on legal problems related to personal information protection associated with television workers (Figure 15).



Figure 15 Industry, government, and academic and research fields representatives exchange views with employees in broadcasting.

Source: NCC

More sampling inspections on regulated telecom radio frequency equipment and wireless set-top boxes

During 2022, a total of 27,521 grievances on illegal sales of regulated telecom radio frequency equipment were accepted. NCC requested e-commerce platform operators to remove 22,107 product websites. For those who sell unqualified regulated telecom radio frequency equipment and materials, we continue to assign more staffs to visit these stores and implement administrative checks. In addition, NCC promoted relevant rules to operators in order to help them prevent punishment.

To maintain the order of radio frequency and protect people's rights, from 2016, NCC has enhanced sampling inspection for wireless set-top box more often. From January 1, 2016 to April 24, 2023, 301 wireless set-top boxes qualified; 149 wireless set-top boxes went under sampling inspection (49.5% of sampling inspection rate); 83 wireless set-top boxes violated the rules during sampling inspection, so their review certificate was abolished. NCC published the list of qualified set-top boxes and the reasons for abolishment. Meanwhile, NCC requested the providers, the network platforms, and instore channel operators to recall the disqualified set-top boxes and remove these products from shelves. (Figure 16).

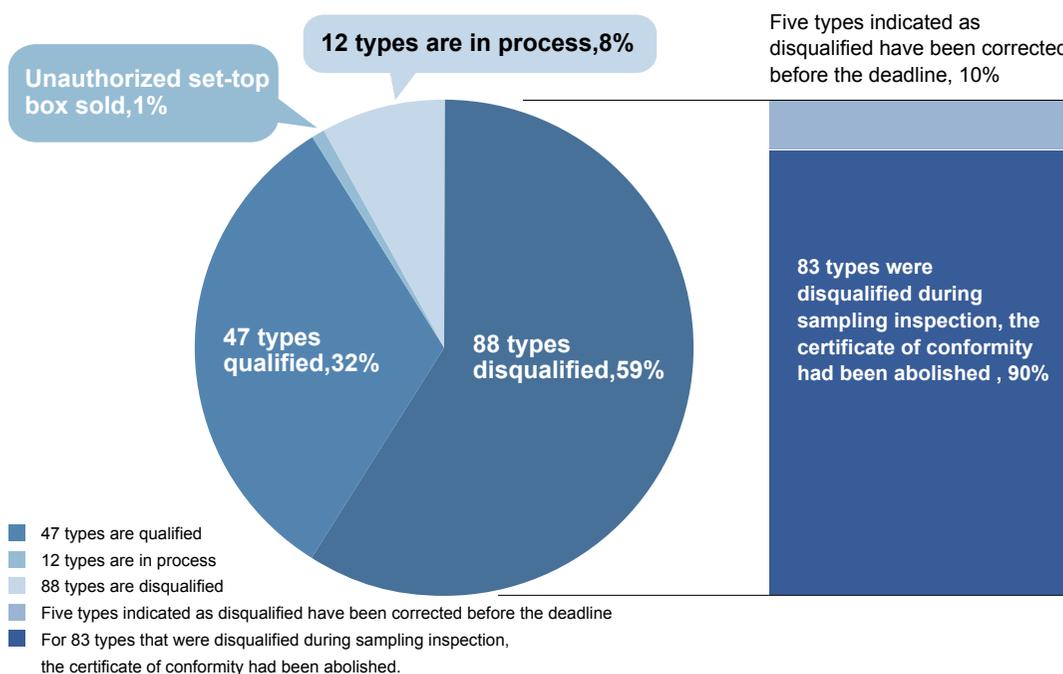


Figure 16 Results of sampling inspections performed on wireless set-top boxes

Source: NCC

NCC also undertook mandatory inspections on the wireless radio frequency function of wireless set-top boxes, ensuring that connection devices were not damaged by equipment, electromagnetic compatibility, and ensuring that communication frequencies did not interfere with each other. If the wireless set-top box provides video contents violating the Copyright Act, NCC shall continue to work with the Intellectual Property Office and the telecommunications inspection squad to combat illegal set-top boxes, to protect intellectual property rights.

Producing TV programs to promote safety awareness of electromagnetic waves in remote areas

During 2022, experts and scholars were invited to hold twelve meetings pertaining to the accurate knowledge of electromagnetic waves; a total of 980 people participated. Another thirteen conferences were held in local areas with 738 people in attendance.

Moreover, NCC authorized the Police Radio Station to broadcast 16 radio dramas for 553 times at National Public Security and Traffic Network (104.9MHz). Commissioner Jiang-Jia Wang was interviewed on Police Radio Station (Figure 17). Ten advertisements were produced and broadcast on 25 medium and small radio stations for 5,000 times.

On a podcast episode of internet influencer Zhiqi Qiqi, Commissioner Chong-Shu Chen and Zhiqi Qiqi discussed electromagnetic waves from a scientific viewpoint, eliminated concerns (Figure 18). Likewise, Deputy Director General of Supervisory Division of Northern Taiwan Po-Chou Liang was interviewed on Plain Law



Figure 17 Commissioner Jiang-Jia Wang being interviewed on Police Radio Station.

Source: NCC



Figure 18 Commissioner Chong-Shu Chen being interviewed on the Zhiqi Qiqi podcast

Source: NCC

Radio podcast, an independent online media, discussing safety of electromagnetic waves, mobile substation infrastructure, and the future of 5G.

In order to promote accurate understanding of electromagnetic waves, internet influencer Bluepigeon was invited to produce a short film entitled, "Do electromagnetic waves from base stations cause cancer? Doctors unfold the truth" (Figure 19).



Figure 19 Short promotional film produced by the internet influencer Bluepigeon
Source: Bluepigeon



Figure 20 TV program “Go! Travel.”
Source: NCC

To resolve doubts from the public, seven episodes of the TV program “Go! Travel” were produced (Figure 20). The program aired on FTV News Channel, Formosa TV, FTV Taiwan, FTV One, Taiwan Indigenous Television and Hakka TV. Both of the full-length and highlights versions had also been uploaded to the network video platform for the public. The program was promoted via trailers, recommendations by influencers on social media, highlighted text messages, KOC promotions, social media advertisements, and web portals.

Upgrading audience experience on HD cable TV

In order to elevate the production and preparation of high-definition programs, from 2018 the commission began promoting “Cable TV Industry Channel High Definition Policy.” The ratio of basic channels increased from 87.7% in Q2 2019 to 99.8% in Q4 2022, providing viewers with superior quality audiovisual settings and programs (Figure 21).

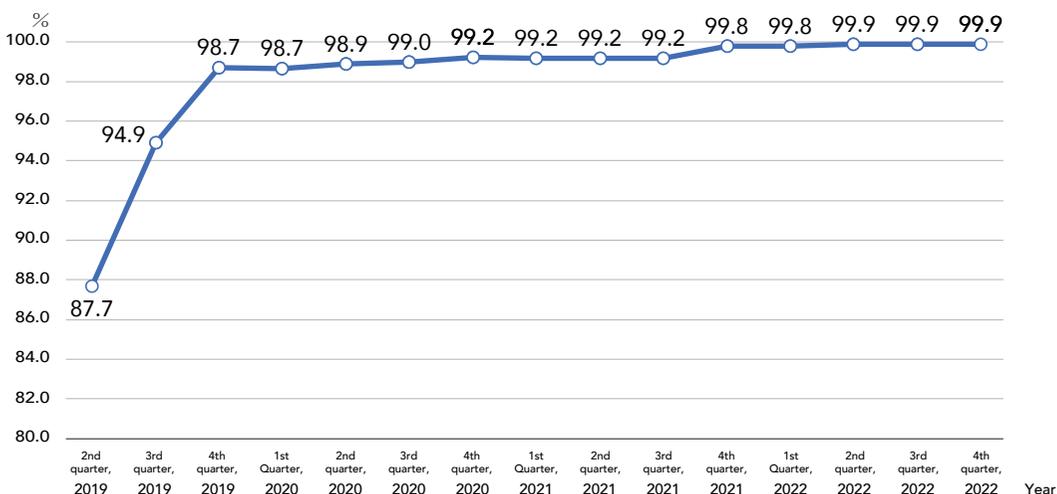


Figure 21 Performance on CATV HD upgrading in basic tier
Source: NCC

Encouraging operators to promote 4K service, facilitating digital penetration of cable TV

NCC began implementing the subsidy plan “Facilitating penetration development of cable TV” in 2019. NCC subsidized the establishment of the experimental area of 4K video service with the cable TV fund, promoted 4K high-quality video service, facilitated digital penetration and development of cable TV. NCC aims to guide cable TV operators to invest in hardware construction, in order to provide better audiovisual service, and

to elevate the competitiveness and prosperity of the industry.

From 2019 to 2022, 164 operators were subsidized, over 590,000 users benefit from it, which represents 12.84% of total users in Taiwan (approximately 4.64 million cable TV users). (Figure 22).

Cable TV operators subsidized from the fund have already been broadcasting Tokyo 2020 Olympics in 2021, 4K programs such as Love Nature and MOMO Variety Channel HD, and various 4K videos.

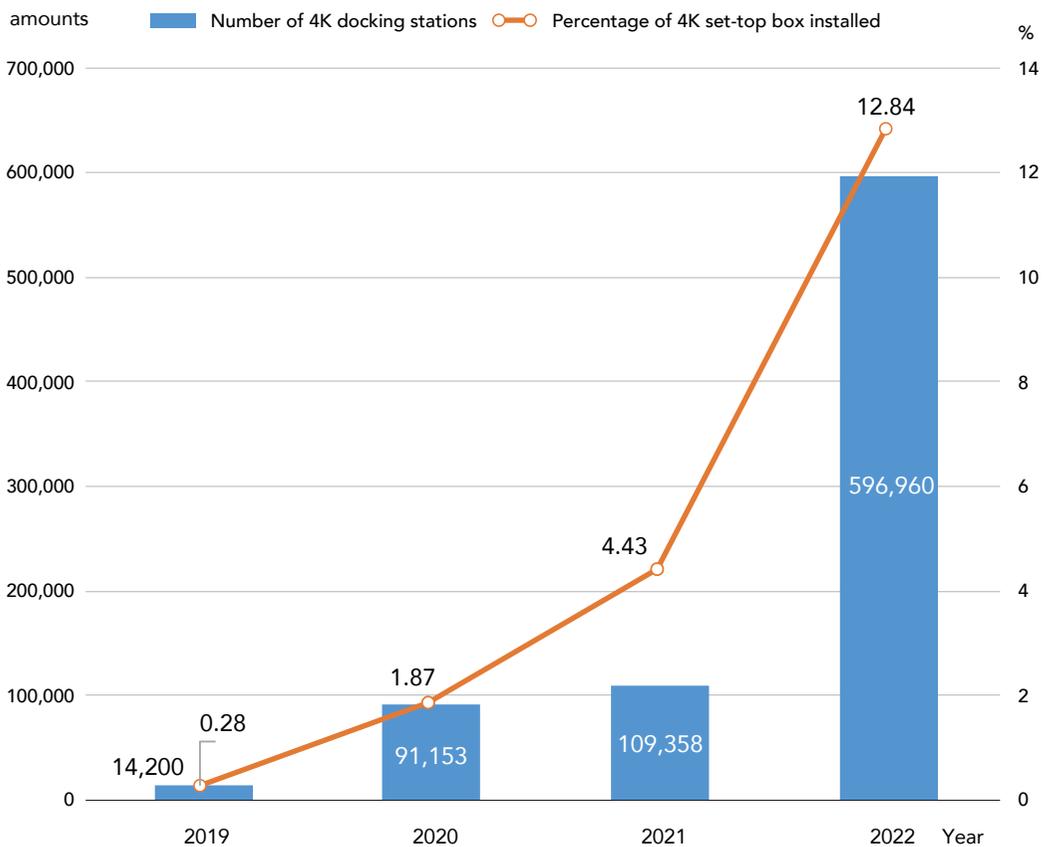


Figure 22 4K set-top box installations by cable TV operators
Source: NCC

Promoting multi-stakeholder approach on Internet Governance

Amending the National Communications Commission Organization Act to adapt to the organization reform of the Executive Yuan

To respond to the organization reform of the Executive Yuan, the Ministry of Digital Affairs was established to play the leader role of digital Taiwan. NCC transferred the tasks related to digital infrastructure, allocation of rare resources, information and communications security, and the guidance mechanism of the communications industry plan, to the Ministry of Digital Affairs.

In order to adapt to the transformation, NCC amended, Articles 3, 9 and 14 of the National Communications Commission Organization Act in May 2022. NCC also adjusted relevant duties, introduced Internet communications policy and amended the source of communications supervision fund.

NCC started to plan the establishment of the Internet Communications Office in 2022, which was officially established in April 2023. The Office promotes the internet communications governance policy, holds multi-stakeholder meetings, urges autonomy of internet content, and assists in executing duties entrusted by all agencies.

The tasks of “Internet Communications Office” include promoting mechanisms of multi-stakeholder engagement, industrial autonomy promoted by public and private sectors

promoting protecting mechanism within relevant departments, surveys and analysis of internet communication affairs, and planning of empowerment activities pertaining to literacy of internet communications.

Formulating the draft of “OTT TV Act”

We actively formulated a new draft act regulating internet audiovisual services (OTT TV). We openly collected opinions from all parties to amend the draft starting from 2020. We also consulted relevant departments. On May 25, 2022, we released the structure of the draft amendment, and collected opinions from all parties by holding an industry seminar.

In 2022, key issues in the draft structure were “scope, registration mechanism and obligation” and “special violation patterns and disposal measures.” The scope of the draft covered operators which would have commercial presence or substantial connection with Taiwan. In addition, these OTT TV operators should reach to a certain scale of business.

Currently we continue to refer to international trends, undertake regular reviews and research of the internet audiovisual services (OTT TV), and have included the OTT TV draft into the 2023 legislation plan. We organized a working group to examine the legislation structure and check relevant regulation issues. To enhance feasibility of OTT TV governance policy, and continue to exchange opinions with external parties, the opinions of all parties shall be considered prior to reaching a consensus and formulating the draft.

Discussing the draft on digital governance to ensure human rights

In June 2022, the “Digital Intermediary Service Act Draft” was proposed by referring to relevant international laws such as the Digital Services Act Draft (DSA). The preliminary provisions of the draft were drawn up and announced during the “Public Talk - Public Policy Online Participation Network Platform” at the end of June 2022. Three public consultations were held for different groups on August 11, 16 and 18 to gather feedback from relevant operators, public groups and stakeholders. (Figure 23). Moreover, a public hearing on August 25 was also planned to be organized to collect opinions from all parties to amend our draft. According to the legislation procedure, the draft would be amended after the public consultations, and then submitted to the Executive Yuan and Legislative Yuan for review and deliberation.

Unfortunately, due to some public concerns, the “Digital Intermediary Service Law Draft” was required to be reconsidered. We shall continue to thoroughly analyze issues pertaining to internet governance, communicate with all parties openly, and facilitate autonomy and appropriate governance of the platform.

Conducting survey on how TV media industry is affected by digital platforms

Referring to the relevant information of advanced countries the survey on how radio and television media industry in Taiwan is affected by digital platforms was undertaken. The survey focused on the overview of digital transition



Figure 23 Public consultation of draft of the Digital Intermediary Service Act

Source: NCC

of eleven TV channels in Taiwan, how news channels interact with large digital platforms, and how the news channels are affected.

The survey indicates that the ratio of digital and non-digital advertisements in Taiwan had reached the golden cross point in 2016, which shows that the advertisers now prefer digital advertisements rather than traditional radio and television media. Overall revenue and advertisement income of radio and television news industry in Taiwan began declining from 2017.

NCC engages in the coordination group set by the Executive Yuan, and coordinates with the Ministry of Digital Affairs, the Ministry of Culture, and the Fair Trade Commission to discuss how to build a better news industrial ecosystem.

Public-private collaboration; iWIN enhances security for security of children and teenagers online

As required by Article 46 of the Protection of Children and Youths Welfare and Rights Act, the

NCC, jointly worked with the Ministry of Health and Welfare, the Ministry of the Interior, the Ministry of Education, the Ministry of Culture, and the Ministry of Economic Affairs, and authorized an NGO to establish the “iWIN Network Content Protection Institute” (iWIN) to urge operators to promote autonomy, and establish appropriate protective measures to ensure security of children and teenagers online.

During 2022, iWIN handled 2,775 complaints filed by the public. 1,662 among them were violating the applicable laws and regulations for children and teenagers mainly pertaining to pornography, followed by objects harmful for children and teenagers, pictures of private parts of children and teenagers, and violence. After

receiving a complaint, iWIN evaluates the case, transfers it to relevant domestic and overseas units, and requests online platform operators to remove the content.

iWIN organized the annual conference “Build Children and Teenager Network Privacy Protection Together” in 2022 with the aim of increasing awareness to the importance of children and teenager network privacy, demonstrating how it guides network platform providers to implement autonomy, and presenting the survey result of children and teenager online behavior (Figure 24). Meanwhile, adult video platforms have been urged to reinforce protection mechanisms, such as an age verification method. We also coordinated with operators to strengthen protection function



Figure 24 2022 iWIN Children and Teenager Cybersecurity Annual Conference

Source: NCC

of LINE community service and conducted the “2021 children and teenager network survey” with the National Health Research Institutes; the survey presented dangerous online behavior of children and teenagers.

Commissioner Lih-Yun Lin attended the International Institute of Communications (IIC) Regulators’ Forum and Annual Conference

NCC proactively engages in international forums to exchange ideas with experts in industry, government and academic field from different countries to obtain international mindset and to

further enhance network governance content in Taiwan. Commissioner Lih-Yun Lin led a team from October 31 to November 4 2022 to attend the International Institute of Communications (IIC) Regulators’ Forum and Annual Conference. She served as the moderator of the “Hazardous Online Content” panel discussion to share current development in Taiwan and exchange with other representatives whereby attendants shared ideas and practices for dealing with fake news, hate speech and toxic online contents related to children and teenagers (Figure 25).

Commissioner Jiang-Jia Wang led a team to attend the Roundtable Forum and Asia Video Summit in Singapore

Commissioner Jiang-Jia Wang led a team to attend the Asia Video Industry Association (AVIA) Roundtable Forum and Asia Video Summit in Singapore from October 30 to November 3, 2022.

The topic of this meeting focused on tackling toxic online content, consumer data protection, and the environmental sustainability of media industry. The NCC delegation interacted and exchanged ideas with all government agencies of the Asia-Pacific Region. They also exchanged opinions with major international multimedia operators on market development of film and television industry. A visit to Infocomm Media Development Authority of Singapore (IMDA) was also arranged in which they exchange opinions on communications supervision topics (Figure 26).



Figure 25 Commissioner Lih-Yun Lin served as moderator of the “Hazardous Online Content” panel discussion.

Source: NCC



Figure 26 Commissioner Jiang-Jia Wang traveled to Singapore to meet the IMDA.

Source: NCC

Building a diverse environment with universal communications access

Coordinating owners of public buildings to build base stations; granting subsidies for 5G network installation plans

Since 2014, NCC has been coordinating with the Executive Yuan to accelerate development policy of mobile broadband communications, actively negotiating with all public agencies to allow telecom in order to provide high-quality internet environment to the public.

In order to build a better environment for 5G development, NCC engaged in the Executive Yuan's "5G network installation subsidy plan",

and announced "Guidelines for 5G network installation subsidy" on March 29, 2021, which prioritized to allow subsidies to base station installation in public transportation hubs, important industrial development areas and charity agencies with 5G demand. The objective is to increase the willingness of mobile broadband operators to expand 5G networks and enhance 5G development.

Until December 2022, through the cooperation between NCC and the MODA, the coverage of 5G population coverage reached 96.37%. As a result of government subsidies and operators' acceleration on building base station, 26,265 5G base stations have been built by telecommunications operators.²

² The "5G network establishment subsidy plan" was transferred to the Ministry of Digital Affairs. NCC continues to promote development of 5G technology and applications with the Ministry of Digital Affairs, and improve coverage of 5G network and user penetration rate in Taiwan to promote national digital competitiveness.

Improving fixed-line broadband service in remote areas, bridging the digital divide between rural and urban areas

In order to reinforce the broadband service coverage in remote areas, 131 Gbps fixed-line broadband networks and 283 100Mbps fixed-line broadband wire connections in villages were constructed through the “Forward-Looking Infrastructure Development Program” from 2017 to 2022. A total of 21 locations in six counties and cities were determined in need of greater broadband services: Hsinchu County (Wufeng Township and Jiashi Township), Miaoli County (Sanwan Township, Nanzhuang Township and Tai’an Township), Yilan County (Sanxin Township), Chiayi County (Alishan Township), Tainan City (Longqi District) and Taitung County (Doughe Township, Beinan Township, Dawu Township, Taimali Township, and Luye

Township). In 2022, Chunghwa Telecom was appointed to provide data communications access (Figure 27).

Subsidizing operators to establish mobile broadband base stations in remote areas

The plan “subsidizing operators to establish mobile broadband base stations in remote areas” was promoted as part of the Forward-Looking Infrastructure Development Program. In 2022, we subsidized operators to build 154 mobile broadband base stations in remote areas, 151 of which are 5G substations, 4G and 5G base stations in Pengchiayu, Zhongzheng District, Keelung City (Figure 28), 4G and 5G substations in Gaodeng Island, Beigan Township, Lienchiang County (Figure 29), and co-construction co-station stations in Tungli Tribe, Xuilin Township, Hualien County.



Figure 27 Group photo during onsite inspection of deployment of broadband in remote areas in Kaoshiung

Source: NCC



Figure 28 4G and 5G base stations in Pengjia Islet, Zhongzheng District, Keelung City

Source: NCC



Figure 29 Chairperson Yaw-Shyang Chen, and Commissioners Lih-Yun Lin and Wei-Ching Wang, and former Commissioners Ya-Li Sun, Wei-Chung Teng and Chi-Hung Hsiao led staffs to Liang Island, Beigan Township, Lienchiang County to check the 4G and 5G base stations.

Source: NCC

302 mobile broadband base stations were subsidized and constructed from 2021 to the end of 2022, The 5G bases stations have covered 87 remote areas in Taiwan.

In 2022, four activities were held in the topic of 5G applications in telehealth, local culture and distance learning, which took place in Nangan Township of Lienchiang County, aboriginal townships in Hualien County, Alishan Township in Chiayi County, and Wufeng Township in Hsinchu County (Figure 30).³



Figure 30 5G education activity at Wufeng Township, Hsinchu County

Source: NCC

3 This task was transferred to the Ministry of Digital Affairs in 2023. NCC continues to help promote 5G application development in remote areas, and increase penetration of mobile broadband services.

Improving quality of mobile communications in mountainous areas

NCC promoted to build mobile broadband infrastructure in mountains and trails in national parks, which effectively improve the mobile coverage rate in mountainous areas, national parks and nearby routes. (Figure 31) had all been provided with coverage. 15 locations were improved in 2022, including Lilongshan Trail in Pingtung County, Taijia Thru-Hiking Route in Taipingshan, Yilan County, Alishan Tashan Trail in Chiayi County, Alishan Shuiyang Forest Trail and Forest Railway, Ruisui Forest Road and Danongdafu Forest Park, Hualien County, Dongyanshan National Forest Recreation Area in Fixing District, Taoyuan City, and summit mark of B'bu Kuluw on Northern Cross-Island Highway.

The communications quality of 98 trails were also improved throughout 2022.

Three base stations were also built to improve signal coverage at Lidingshan Trail in Majia Township, Pingtung County, Smangus & Giant Trees Trail in Jianshi Township, Hsinchu County, and Qika Cabin in Shei-Pa National Park.

Through the Mobile Quality in Mountains Plan, the government actively expands mobile coverage in mountainous areas and national parks, in order to satisfy the needs of hikers and tourists ,and facilitate the development of hiking and tourism industry. ⁴

Promoting the Accessibility Certification for websites

On February 15, 2017, the “Regulations for Issuing Web Accessibility Accreditation badges



Figure 31 Ruisui Forest Road in Zhuoxi Township, Hualien County

Source: NCC

4 This task has been transferred to the Ministry of Digital Affairs. We help continue to build mobile infrastructure to implement the Open Mountain and Forest Policy and offer a friendlier hiking environment for people.

for Websites of Governmental Agencies and Schools” came into effect, later on the revised version of “Web Content Accessibility Guidelines” was updated on March 18, 2021. Digital inclusion was implemented through the promotion of the Accessibility Certification for websites.

On April 8, 2022, NCC held the first website accessibility seminar to discuss service functions of financial websites, and formulated feasible methods in different stages. By the end of July 2022, six seminars of “Accessibility Certification Symbol” was held to accelerate the promotion of testing service and 760 Accessibility Certification Symbols had been issued, 1,252 manual tests were conducted, and 624 tests for people with physical disabilities. We shall continue to enhance the quality of “Accessibility Website Certifying testing Service, upgrading software functions and information service”. Our goal is to reinforce the rights of information access for people with disabilities and achieve social justice.⁵

Reinforcing security and protection of information and communications

Announcing the results of sampling inspection on information security of build-in software of smartphones

From the second half year of 2021 to Q1 2022, NCC had conducted the inspection on ten

smartphones and five smartphones from China brand, which were best sellers in Q1 and Q2 2021 but did not obtained certification on information security. These 15 brands were all qualified after taking the primary test, second test and improving procedure.

This sampling inspection focuses on personal information protection and encryption mechanism of the application software and protocol. From the “Infocom security test specification of embedded software on smartphone systems” announced by the Taiwan Association of Information and Communication Standards (TAICS), ten items related to information security were selected to be tested, including “user permission requirement before accessing sensitive data,” “embedded software shall save the account, password or key in the operating system protection area or save them in encrypted form,” and “embedded software shall prevent Session ID from replay attack.”⁶

Advanced deployment of information security, upgrading protection

NCC initiated the “National Communications and Cyber Security Center (NCCSC)” in 2018 and further expanded operations. Currently, the network operation status of eight types of communications operators have been fully functioning mobile communications, satellite communications, submarine cable communications, fixed-line communications, DNS domain, cable

5 This task has been transferred to the Ministry of Digital Affairs. NCC also cares about the rights of the disadvantaged to access communications and continues to promote relevant administrative behaviors.

6 This task has been transferred to the Ministry of Digital Affairs to promote sampling inspection and result announcement of built-in software information and communications security for mobile phones, urge manufactures to focus on built-in software information security, and protect consumer rights.



Figure 32 Former Commissioner Ya-Li Sun gave the opening remarks at the “Advanced deployment of information security, World Cybersecurity Trend”

Source: NCC

TV, terrestrial TV, and internet access network. With these efforts, we can achieve pre-incident preparation, function of report and response, and recovery ability of critical infrastructure (CI) and network barrier incidents.

In order to elevate 5G information security protection ability in Taiwan, NCC held the seminar "Advanced deployment of information security and the world cybersecurity trend" in 2022. The topics included security software development and security test verification under the 5G O-RAN open structure (Figure 32), domestic and international development and cybersecurity issues of drone application service, and trend of smart city IoT development.

By referring to advanced international cyber-security standards and practices, NCC provided a reference framework and guidelines of 5G network software system and operation security management. On this basis, it can enhance operator’s ability of information safety protection, establish the foundation of national innovation ecosystem, increase cybersecurity reputation of Taiwanese suppliers in international market, and create industrial competitiveness.⁷

⁷ This task has been transferred to the Ministry of Digital Affairs. NCC helps set up the 5G information and communication security environment in Taiwan, and helps corporations improve information security power and ability.

Promoting disaster prevention and rescue, and pandemic prevention

Establishing mobile communication platforms for disaster prevention and rescue, ensuring all-time connected communications during emergencies

NCC has promoted the “Forward-looking Infrastructure Project - Establishment of Infrastructures to strengthen mobile communications for the sake of disaster prevention or rescue”. In 2022, 62 disaster prevention and rescue mobile communication platforms were constructed, including 17 fixed-point disaster prevention and

rescue mobile communications platforms and six flexible disaster prevention and rescue mobile communications platforms. 39 existing mobile communications platforms were optimized.

NCC helped operators build the co-construction base station at the Yushan North Peak to reinforce mobile communication quality of the mountains and trails in Yushan National Park. Existing mobile communications platform were optimized by replacing and expanding the capacity of battery. Stability of mobile communication coverage for Yushan Peaks, Batongguan Historic Trail, South Second Section of Central Mountain Range, and the trail of Provincial Highway 21 to Tataka were enhanced and the quality of mobile communications in Yushan National Park, as well as telecommunications capability in case of rescue operations in mountainous areas have been improved (Figure 33).⁸



Figure 33 Mobile communication platforms at Nantou County Xinyi Township Batong Section Land serial no. 0075 0000, 0076 0000, and Beishan Section Land serial no. 0001-0000

Source: NCC

⁸ This task has been transferred to the Ministry of Digital Affairs. NCC helps reinforce disaster prevention and rescue mobile communications.

Supervising telecommunications operators to regularly test the disaster prevention warning system

The NCC promotes the cell broadcast service (CBS) together with the following parties: the Disaster Prevention and Rescue Office under the Executive Yuan, the competent authorities for respective disaster prevention and rescue operations, the National Science and Technology Center for Disaster Reduction, and mobile broadband operators. With the instant warning message, the public will be notified during disaster in a short amount of time, and it can achieve the goal of disaster prevention.

By March 2023, the warning system was open to 40 disaster prevention authorities. 24 types of warnings, including instant earthquake reports and real-time messages of heavy thunderstorms released by the Central Weather Administration, MOTC, debris flow and large-scale landslide warning released by Agency of Rural Development & Soil and Water Conservation, MOA, and air quality alarm released by the Ministry of Environment can be transmitted. The air quality alarm message will be sent when the level of air pollutant concentrations (particulate and fine particulate) monitored by the Ministry of Environment reaches three level higher than regular level (AQI>200). In 2022, 120 test messages about disaster prevention were issued in both Chinese and English.

To lower the CBS abnormality rate, NCC has supervised operators to undertake regular test, which includes test on physical network of entire area and remote backup test on Cell Broadcast

Entity (CBE) and Cell Broadcast Center (CBC). Operators should execute the test on the entire area after updating the system software, publish press release prior to the test, and notify NCC the test result.

Telecommunications operators must execute a test every month, including the test on the entire area three times per year and remote backup test two times per year. Furthermore, NCC will hold meetings to review and adjust the CBS test method.

In addition, operators must adapt to the disaster prevention policy upgrade system, and send the disaster warning message on National Disaster Prevention Day. The disaster prevention and rescue warning message is sent based on the need of the drill unit during each Minan Drill and disaster prevention drill (Figure 34).

Assigning radio and television operators to promote anti-pandemic measures to convey correct information to the public

In order was to convey accurate information concerning COVID-19 to the public and prevent pandemic , NCC followed the instruction of the Central Epidemic Command Center (CECC) and requested TV stations, satellite TV and radio stations to convey correct anti-pandemic information in the form of inserted subtitles, video and radio from January 22, 2020. While the pandemic was gradually under control, following the instruction of the CECC, NCC has suspended the anti-pandemic promotion on radio and television from February 20, 2023. Thereafter, when the COVID-19 situation in Taiwan was downgraded



Figure 34 Five major telecommunications operators cooperate with the drill on 2022 National Disaster Prevention Day.

Source: NCC

from Notifiable Infectious Disease V to Notifiable Infectious Disease IV, the CECC demanded all departments to return to normalcy to facilitate the economics.

From February 2020 to April 30, 2023, broadcast and satellite TV channels were requested to undertake inserted captions. 6,428,436 captions were inserted, 1,342,431 videos were broadcasted, and the total broadcasting time was approximately 1,342,431 minutes. Meanwhile, 839,909 promotional contents were broadcasted on radio stations, approximately 419,954 minutes and 30 seconds (Figure 35).



Figure 35 Promoting epidemic prevention to convey accurate knowledge to the public

Source: NCC

Enhancing domestic and international exchanges

Holding the workshop to discuss legal aspects of administrative discretion

NCC is an independent agency in charge of communications supervision affairs. Considering some litigations are involved in disagreement between theory and practice of the Administrative Law, which engages in NCC's administrative discretion, independent agency's judgment, administrative court's scope of review, review standards and intensity, NCC held "the margin of administrative discretion, administrative discretion and intensity of judicial review" seminar in Taipei and Chiayi on October 25 and 28, 2022. Twelve scholars specialized in the Administrative Law were invited for discussion and exchange of ideas, clarifying NCC's margin of administrative discretion and intensity of judicial review. These opinions of the scholars would provide NCC critical reference for future policy. (Figure 36)

Observing dynamics of international communications and conducting survey of the domestic communications market

From 2019, NCC has held the "International Communications Industry Dynamics Monitoring Program" to analyze information on the dynamics of important development topics from the aspects of international policy, technology, and markets.



Figure 36 Commissioner Jiang-Jia Wang delivers a speech in Chiayi.

Source: NCC

NCC regularly gathers up-to-date information of international communications industry, and presents them in the form of single piece of information, monthly report, research abstracts and topical report. In the meantime, "International communications industry dynamics monitoring website"⁹ was established for reference and opened to all parties.

Furthermore, NCC continues to execute the "Communications market survey and trend analysis plan" initiated in 2017. According to overall communications market in Taiwan, communications and media user behavior tracking, emerging convergence service trend and forward-looking analysis, we would obtain objective and fine consumer behavior information. With the combination of statistics data from supply aspect and the research report of international communications industry, it can show the trend of communications development. The survey results and analysis content will

⁹ International communications industry dynamics monitoring: <https://intifocus.ncc.gov.tw>.

be published in the “Communications Market Report” every year. In the meantime, “Communications Market Survey Website¹⁰” offers visual interactive search function for everyone to obtain various statistics charts and data.

Enhancing international exchange and collaboration, to foster Taiwan’s international visibility

We actively engage in international conversation and collaboration, and exchange experiences and points of view with peer supervisory agencies worldwide. Brendan Carr, Commissioner of the Federal Communications

Commission (FCC) visited us on November 2, 2022. He was the first incumbent FCC Commissioner to visit Taiwan since NCC’s establishment. Chairperson Yaw-Shyang Chen and Commissioner Chung-Shu Chen met with the delegation on behalf of the commission. This meeting mainly focused on topics such as important telecommunications business, cybersecurity, frequency spectrum management, satellite communications, and data management. Both parties shared the willingness that NCC and FCC could continue to focus on the supervision concept exploration, and build a safe, prosperous market environment for communications industry in Taiwan and the US. (Figure 37).



Figure 37 Chairperson Yaw-Shyang Chen meets Brendan Carr, Commissioner of the Federal Communications Commission (FCC).

Source: NCC

10 Communications Market Survey: <https://commsurvey.ncc.gov.tw>.

In order to deepen the interaction with Communications Regulatory Commission of Mongolia (CRC), Chairperson Yaw-Shyang Chen met with the Chairperson and CEO of Communications Regulatory Commission of Mongolia (CRC) CHINZORIG Gonchig on via video conference on March 17, 2022. They exchanged opinions on a wide range issues of communications supervision (Figure 38). The conference enabled both parties to deepen mutual understanding of communications market and regulations in both countries, and it also established a great foundation of future cooperation and knowledge sharing.



Figure 38 Chairperson Yaw-Shyang Chen had a video conference with the Chairperson and CEO of Communications Regulatory Commission of Mongolia (CRC) CHINZORIG Gonchig.

Source: NCC

Commissioner Chong-Shu Chen led a delegation to the Telecommunications and Media Forum (TMF) organized by International Institute of Communications (IIC) in Washington, D.C. from December 13 to 14, 2022. The delegation exchanged ideas with representatives of regulators and industry from different countries and also visited the Federal Communications Commission (FCC) (Figure 39). This forum focused on numerous important topics, including communications policy of the US, legislation and investment in broadband infrastructure, sustainable development, AI and cross-border data exchanges. The above topics were critical for the reference of Taiwan's future communications policy planning.



Figure 39 Commissioner Chong-Shu Chen, IIC Secretary-General Lynn Robinson, and Chairperson Chenda Thong from the telecommunications agency in Cambodia.

Source: NCC

The image features a background of overlapping circles in various shades of blue, from light to dark. A central dark blue circle contains the text "Prospects and Visions" in white. This central circle is surrounded by a thick dark blue ring, which is further enclosed by a thin white ring. The overall design is clean and modern, with a focus on geometric shapes and a color palette of blues.

Prospects and Visions

Communications technology changes rapidly, and accelerates industrial development and innovative application. With 5G support, emerging fields, such as Internet of Things (IoT), Artificial Intelligence (AI), and online video streaming have developed prosperously. Meanwhile, 5G also brings major reform of market structure and regulatory supervision.

NCC has been established for 17 years. During 17 years, multiple policies and regulations have been amended, in order to respond to communications industry development and emerging technologies, and the policy and regulation amendment would facilitate industrial development, ensure fair market competition, protect public communications rights, build a diversified and universal environment for communications access and enhance opinion expression.

We remain dedicated to improving industrial development, enhancing communication rights for the public, fostering balanced multicultural development, and improving internet governance. With these efforts, we aim to elevate national competitiveness and benefit the public.

Improving communications industry development

In order to respond to digital convergence trend, the government role of the EU and advanced countries policy has gradually shifted from supervisory type to competitive one. As for operators with significant market power (SMP), the EU and advanced countries implement asymmetrical regulations. Based on the market competition situation in Taiwan, NCC continues to foster communications market competition,

investment and innovation, to review convergence service competition and to facilitate industrial development planning.

While the development of digital convergence accelerated, communications industry has become extremely competitive, and numerous industries have been merged. In order to maintain fair, competition in the communications industry, appropriate allocation of resources, current condition of industrial development, protection of user rights, maintenance of market competition, and national security are all considered. NCC plans to supervise the industrial structure and self-discipline mechanisms to maintain robust industrial development and diverse services.

With the development of 5G technology, spectrum has become a rare resource. The cost of network deployment has significantly increased, so as the capital demand. Therefore, the telecom industrial merger has become the international trend. On January 18, 2023, the merger of two telecommunications operators in Taiwan were approved. NCC would continue to monitor market development and the enforcement of relevant obligations, and adjust telecommunications service supervision strategy, and finally achieve telecom industry development, innovative service and consumer rights protection.

The 2023 market survey report shows that most of the people in Taiwan who are over 16 year-old, mostly watch cable TV and news. In order to effectively supervise news contents, NCC conducts news observation report; in the hope that releasing news report information publicly can strengthen public engagement in media supervision and cultivate public's media literacy. Furthermore, in order to enhance quality of the radio and television content and protect

public rights, NCC established a communications complaint website, in which it would release supervisory report quarterly and annually, for the public to have better understanding and engage in supervising the media. Media credibility, social trust, and the communications environment can all be improved. NCC shall continue to announce information for new channels to perform social functions, including supervision of government, maintenance of public interest, and providing public services.

While facing rapid development of online streaming and digital platform, NCC should ensure the development of cable TV in Taiwan. Therefore, in order to understand market dynamics, NCC strengthens financial audition of cable TV, checks on subscriber numbers to maintain the industrial order; establishes anti-monopoly measure. Since copyright fees for sports games, arts and cultural events are expensive, certain rules pertaining to information of sponsors have been adjusted to encourage TV operators to broadcast domestic and international sports games, and arts cultural events. NCC aims to balance operator needs and viewer rights, and facilitate advancement of the industrial environment, seeking opportunities to optimize various administrative undertakings, and review amendment to relevant laws,¹¹ in order to sponsor sports games, and arts cultural programs. We hope that television stations can become more willing to broadcast these programs, providing

more programs for viewers, and facilitate development of television and radio industry.

In order to adapt to prospering development of communications technology and services, and ensure diversity, NCC regularly analyzes producer and consumer behaviors with the result of communications market survey which is designed to monitor international dynamics. How the advanced countries supervise the producer and consumer behaviors can be an important indicators for NCC to assess industrial development trend. NCC shall continue to optimize the database of communications industry.

In addition to policy planning, regulation adjustment and reference for supervision, NCC publicly releases international and domestic market information and statistics, implements information transparency.

Improving communications rights of citizens

In the era of communications convergence, innovation becomes critical. The COVID-19 pandemic facilitates digital application rate and accelerates digital transformation. NCC actively observes such changes in digital ecosystems. In addition to promoting information and communication policies in drive industrial development, NCC focuses on the obligation of communications infrastructure deployment and digital equality, and ensure people's communications rights regardless of race, gender, mental status or geographic location.

We promote the Building Telecommunications Family-to-Family Citations Policy to guarantee communications rights. By holding education

¹¹ During the resolution of the 1082th Committee Meeting on September 6, 2023, NCC amended and approved Paragraph 2 and 3, Article 15 of the Regulations for the Distinction between Television Programs and Advertisements, Product Placement Marketing, and Sponsorships. The information on sponsors can now be shown on half of the screen, and can be presented on the full screen when adequate.

training, we promote rules to relevant associations and workers in communications industry, to ensure the design, construction and permit of the building qualified to the policy, and to increase penetration rate of household optic networks in Taiwan. Meanwhile, we have reinforced performances of examination agencies and the communications quality of the building. We hope to increase optical fiber access through implementing policies which enables people to enjoy the convenience brought by high-speed communications technology and aim to satisfy people's needs on broadband application service in HD video, IoT, smart family and cloud services, and so on.

In order to prevent telecom scam activity, NCC actively engages in the cross-agency platform that enables the government to prevent scam calls, reinforces ties among agencies, and enhances coordinated scam prevention. NCC is responsible for supervising telecom operators to undertake relevant prevention measures, and adds new fraud prevention mechanism to block scam numbers through behavior analysis. NCC will continue to supervise telecom operators to undertake anti-fraud measures. In order to make sure whether the telecom operators implement two-ID check and risk control, we conduct regular inspections and provide administrative guidance to the Taiwan Telecom Industry Development Association and telecommunication operators to implement the KYC (Know Your Customer) mechanism, and urge telecommunications operators to fulfill corporate social responsibility. Through the active cooperation and resource allocation between central and local government, as well as efforts of telecom, internet and e-commerce platform operators, we hope to combat crimes, reduce loss and create a safer digital environment.

Facilitating balanced multi-cultural development

In order to establish a friendly communications access environment, and to facilitate cultural diversity, subsidies are granted for development and installation of cable TV in remote areas and outlying islands through the "Cable Television Broadcasting Career in Accounting Development Fund." We promote digital value-added service of cable TV and 4K HD programs to achieve development of cable radio and TV. We expect an excellent environment for 4K film and television industry development for cable TV and media.

For content production, we encourage system operators to produce and promote local programs, and facilitate local cultural development. We organize radio and TV operator attainment training to foster professional competency of operators and urge operators to fulfill social responsibilities by producing diverse programs which can achieve balanced development of diverse culture. We aim to enhance overall production quality of the radio and TV operators, and improve internal control and autonomy mechanisms of radio and TV operators via professionalism training.

In order to respond to the rapid development of digital convergence and emerging technology, we continue to promote relevant policy for communications industry development in Taiwan to adapt to the advanced digital trend, in the hope that people can enjoy a good-quality, diverse, free, open communications services, and benefit from the IT society.

Providing comprehensive Internet Governance

The digital economy era leads to digital transition of communications industry, and accelerates service innovation. Emerging topics and issues are derived from new technologies and services; internet broadcasting crosses borders and domains. Major nations have replaced supervision by national power with governance. To respond to industrial change and follow the international development trends, we refer to regulatory measures of forward-looking communications topics, determine latest developments and international standards. We guarantee network security and rights of people with internet governance, and facilitate robust development of the internet communications industry.

In order to adapt to government organization adjustments and the establishment of the Ministry of Digital Affairs, NCC established the “Internet Communications Office” in 2023 due to the new duty related to internet communications policy after organization reform. The Office aims to promote internet communications governance policy, hold multi-stakeholder meetings, urge autonomy of internet content, and assist in executing duties entrusted by all agencies. We aim to effectively reduce online dangers while guaranteeing the freedom of speech, building a reliable environment and protecting user rights. We enhance security and sustainability of internet environment to respond to the hazards pertaining to cybersecurity.

We strive to promote effective cyber security measures and aim to pay attention to relevant topics to guarantee cybersecurity for

children and teenagers. We entrusted the Taipei Computer Association to operate iWIN, the network content protection agency. We observe online behavior trends of children and teenagers through the survey “2023 children and teenager network behavior” to formulate and adjust the network protection policy of children and teenagers. It contains a wide range of aspects when it comes to maintenance of cybersecurity for children and teenagers; thus, we rely on the cooperation of all parties for relevant strategies and measures. We actively gather resources from industries, private groups and government, and work with online platform operators to build a comprehensive autonomy mechanism, and deepen the heteronomy and supervision power in the private sector. While respecting the freedom of speech online, we intend to build a safe online environment for children and teenagers.

Viewing behavior has changed, which shifted from conventional television systems to online video streaming. As a result, traditional laws have become insufficient to protect consumer rights. Our goal is to guarantee the rights of consumers. We continue to formulate the Internet Audiovisual Service Management Act Draft, compile opinions from all parties, and discuss within the specific group, in order to thoroughly plan the draft structure, and specify the scope of regulation and measures in detail. We shall follow the governance objectives including protection of consumer rights, and enhance the security and order of the internet. Operators, users and the government should work hand-in-hand to maintain harmonious development of the internet, with the aim of building a safe, reliable, and sound network environment.

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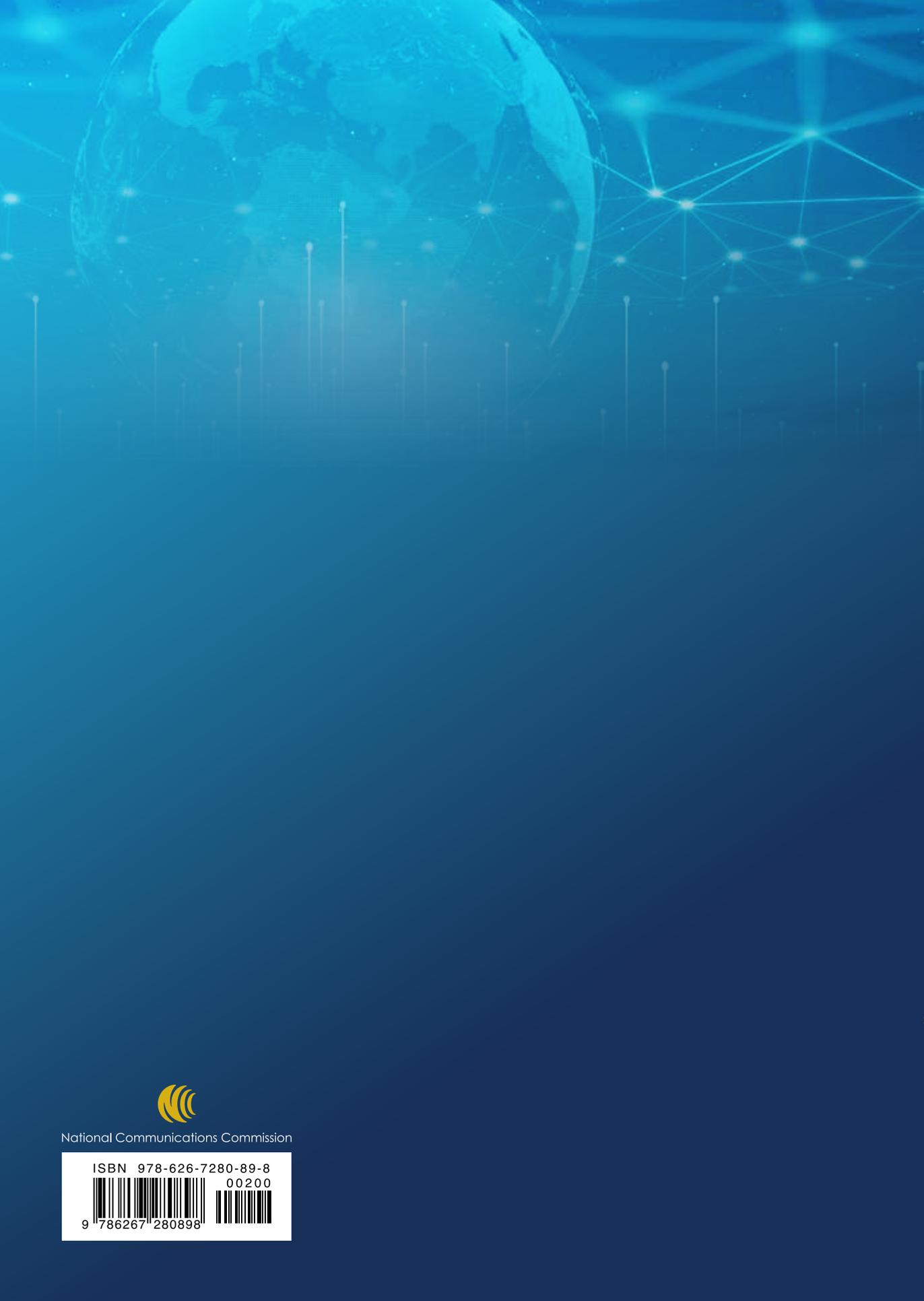
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