

5

THE CREATION OF SUSTAINABLE VALUE



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In addition to the pursuit of operational value and the growth of profit for the benefit of our stakeholders, we also allocate substantial resources for the creation of sustainable value. The approach to this is five-fold: capital investment, strategy formulation, action plan, regular follow-up and performance reviews. We take all the necessary steps to ensure that each investment input has a proper sustainability result.



CHT is **the first** telecom company to institute sustainable supply chain management:

- Working with the Sustainable Alliance for Low-carbon Economy (SALcE) to audit and issue sustainability labels.
- Joining the Carbon Disclosure Project (CDP) in an effort to establish a sustainable supply chain.

ESG

We integrate our ESG strategies with the business plan fully, piloting smart living and facilitating sustainable development with the service philosophies of **"green low-carbon, digital transformation, integrity and transparency."**



CHT develops an **IoT (Internet of Things) platform** that integrates five major services—**information security, big data, cloud computing, artificial intelligence (AI), and augmented reality (AR).**

No.1

CHT is **the first** mobile network operator to receive **ISO 45001** certification.



CHT is **the only** telecom company in Taiwan to have a labor union.

SUSTAINABLE DEVELOPMENT



CHT proposed **"5I SDGs"**—**iHelping, iSharing, iLearning, iTechology, iProtecting**—Taiwan's first sustainable initiative that corresponds with the UN's Sustainable Development Goals (SDGs).



CHT is **the first** telecom operator to launch **5G services.**



The first telecom carrier that obtained both environment management certifications, **"ISO 14067 and ISO 14046".**

Capital

Capital



Financial



Human



Intellectual



Production



Social



Natural

Impact on Value Creation

Impact on Value Creation

- To ensure eligibility for licensing (e.g., the 5G bands)
- Provides sufficient financial resources to support value creation
- Effective execution of commercial activities
- Generation and allocation of other forms of capital, such as distribution of shareholder equity, investments, and capital expenditure

- Telecom knowledge and skills acquired by employees
- Human capital represents one of our major operational costs

- Licensing, laboratory and R&D expenses, and the acquisition and development of industry technologies
- Investment to maintain the brand

- Allocate financial capital to develop and maintain infrastructure facilities
- Operation of the Internet Data Center (IDC) and the installation of wireless facilities and development of software and applications

- Regular contact with the relevant authorities to ensure the conformance and legitimacy of the operations and competition
- Positive feedback from consumers and the general public helps build credibility of the Chunghwa Telecom brand, and minimizes financial outlay

- Natural capital such as infrastructure, raw materials, and energy sources are needed to allocate and take advantage of human capital
- The use of energy-saving processes and solutions can effectively reduce the consumption of natural capital

Resource Allocated to Sustain Value Creation

Resource Allocated to Sustain Value Creation

- Contribution to the government in the form of tax revenue
- Supports the development of network infrastructure
- Improves the quality of telecom services

- Introduction to compensation and incentive schemes to attract and retain talent
- Encourage high value-adding services and innovations
- Talent training and development programs

- Ongoing investment in R&D, construction, and services, and maintain service quality and customer satisfaction
- Investment in the R&D of new technologies and the setting of new protocols

- Ongoing new construction, maintenance, and operation of network equipment
- Procurement control and the acquisition of more cost/energy efficient network equipment
- Consolidation of idle space and the recycling and disposal of obsolete equipment

- Engage with stakeholders actively to make them better understand of the Company operations
- Engage in social activities to exert influence through core activities to minimize the digital divide

- Purchase products that are environmental and friendly to reduce consumption of natural resources and raise energy efficiency
- Use carbon management to minimize energy consumption and apply renewable energy solutions to a greater extent
- Focus on the development of renewable energy sources, by proprietary and commissioned Photovoltaic systems

The Digital Economy Motivator

The SDGs CHT contributes to in this section



SMARTI



Strategy

- We have enhanced the current core business, and actively develop and research new products. It will bring new revenue through better and more innovative ICT products and services, becoming the leader in smart living and the agent of digital economy empowerment.

Management

- Combined with the characteristics of 5G with high speed, low delay and large connectivity, the new ecological chain of 5G industry will be jointly built through the alliance of industrial innovation technologies at home and abroad.

ICT Products and Services

Chunghwa Telecom has been developing ICT services across borders and smart applications that integrate with networks in the cloud. Seasoned with rich industrial service experiences, it acquired the largest bandwidth in 5G bidding. With the licenses in the 3.5GHz and 28GHz bands for mobile broadband businesses, we were the first to launch the 5G services. With the high speed, low latency, and great connectivity of 5G, combined with the alliance at home and abroad for the industry's innovative technologies, CHT built an emerging ecological chain of 5G industries. To accelerate the startups in Taiwan's transition for internationalization, it became the one and only AWS Consulting Partner and Technology Partner for networks in Taiwan. Equipped with certificates in Amazon Web Services (AWS) DevOps Competency, AWS IoT Competency, and AWS Well-Architected, CHT successfully facilitates enterprises in building cloud environments for corporate operation with higher degrees of safety, efficiency, and flexibility.

Action

- CHT was the first telecom operator that launched 5G services.
- We are the first telecom operator that obtained dual certifications in "the regulatory standards for the testing of 5G NR" from the NCC.
- We have developed an IoT application platform using our own innovative technology.
- Five previously separate pursuits have now been combined, including IoT, AI, Big Data, AR/VR and self-driving cars.
- Certificate of Conformity for Privacy Policy issued by SGS

Response

5G consumer applications p.66-69

Target

Short-term:

- "Customer-centric" organizational structure initiated with an aim to become the Leader in Smart Living and Agent of Digital Economy Empowerment to build the next-generation cloud-based intelligent networks.

Mid-long term:

- Over **12,000** 5G base stations
- Over **2.3** million users of MOD services

Indicator

- **2,577** patents accumulated
- NT\$**3.69** billion of investment in R&D
- **1,298** R&D employees

5G gave rise to the applied IoT technologies as well as new forms of services like the emerging industries of AI, big data, drones, AR, VR, smart home, and smart long-term care, which shall drive the economic growth worldwide. Hence, we charge ahead with technological innovations and construct the domestic 5G industrial ecosphere and the integrated applications of 13 vertical markets across 7 categories, endeavoring to offer competitive solutions through a better integration of the hardware strengths in the industry and the software energy of telecom services to embrace transformation.

* 5G Vertical Applications [🔗](#)

5G Consumer Applications

Transportation

Integrated Priority Sign Control System

To effectively improve the efficiency of bus transport and reduce the traffic accidents of ambulance, we collaborated with the National Cheng Kung University to build the first integrated priority sign control system for buses and emergency vehicles in Taiwan. With the V2I technology, the traffic lights, roadside hardware, vehicle and cloud platforms integrated, it computes for the priority rights of way to address the issue of priority sign conflicts for different vehicles. As a result, we built a seamless connection and application for people, vehicles, and roads, offering innovative smart transportation and living for the public.

Autonomous Bus

Through the New Taipei City Autonomous Electric Bus System Trial Run Program, we worked with Kingwaytek Technology Co., Ltd. and Tamshui Bus Company, Ltd. on the development of NTP autonomous electric buses – Smart Blue route, building the Route 168 as the first bus route in Taiwan run by autonomous electric buses.

This case utilizes the Cellular Vehicle-to-Everything (C-V2X) to feed the surrounding traffic sign status as well as the traffic information of other vehicles and pedestrians to the autonomous vehicle platform for computing. Aside from the cameras and LIDAR on the vehicles to learn the surrounding environment, one can also acquire traffic information via the C-V2X communication, roadside cameras and radars. After the trial run for three months without passengers and five months with passengers, the test was completed with a total of 6,618 buses, 6,768 kms, and 1,339 hours. In addition, with over 15,000 passengers, the deviation rate was lower than 2.6% with an on-time rate of 97%. The overall satisfaction rate with the ride from the public was over 90%. In the future, the autonomous bus service shall be extended and applied to tourism routes or community shuttling service step by step.



Housing

Elderly Care for a Happy Living in Pingtung

We gave birth to the first "Dementia Friendly Community" in Taiwan with services like the anti-lost positioning service, emergency services, smart images, friendly and safe transportation, and IoT-enabled autonomous health management service for the elderly. Supported by the local government, it was expanded with services of Yunlin Tianlun D+ Card, Taitung Family Safety D+ Card, and Taipei Memory Security D+ Card available to guard the safety of more elderly to put more families at ease. This solution has been recognized by the 18th Global Views Monthly CSR Awards as an outstanding solution in the Age-friendly category.

5G Smart Yunlin

We actively deployed the energy management systems for the 1,594 classrooms across the 194 schools in Yunlin. In addition to the benefit to the schools in power use management and electricity cost reduction, we took it further by designing a display panel for the school children to see the solar power generation and power usage on campus for the energy efficiency education of the future generations.

Food

Agricultural IoT and AI-powered Farming

To expand the application of the smart IoT technologies in agricultural industry and facilitate an accelerated data integration to achieve precision production and marketing management and put the idea of digital equality in practice, we participated in the agricultural IoT project of the competent agricultural authority to optimize the venue communications. With the features of high speed and low latency of 5G in data transmission, we aided the timely and effective decision-making. This solution has been recognized by the 2020 Smart City and the Gold Award in the 2021 Taiwan Sustainability Action Awards (TSAA).

Medicine

Alliance with NTUH Hsin-Chu Branch for 5G Smart Medicine

To elevate medicine quality and build the smart human-centered medical services, we work with NTUH Hsin-Chu Branch to develop innovative applications in the 5G smart medical arena and deploy the dedicated 5G network environment on the hospital. Together with the 5G edge computing service we developed and the multi-access edge computing (MEC) system software, we realized the medical image feeds, mobile nursing carts, smart robotic cleaning and disinfection, inspection and smart monitoring to boost the energies of healthcare, disease management, public health monitoring, relevant education and research.

5G Precision Connected Emergency System

To develop the innovative 5G applications of Smart City Taiwan 2.0, we work with Taoyuan General Hospital, Ministry of Health and Welfare. The emergency room and mobile precision medical system (out-of-hospital medical station and ambulance) are connected via the 5G network structure to resolve the conventional bottleneck in communication between the out-of-hospital emergency service and the emergency room on the hospital. Also, the ER Situation System was built for a timely information communication to the hospital, effectively ushering in a new landscape for the medical and healthcare services in Taoyuan. Hence, we assist Taoyuan General Hospital, Ministry of Health and Welfare in effective allocation of medical resources and collectively establish the leading advantage of smart healthcare for Taoyuan.





Entertainment

5G Digital Graffiti [↗](#)

As a vital member of Kaohsiung's "Asia New Bay Area 5G AIoT Innovation Hub," we utilized the latest 5G technology to build the first "5G Digital Graffiti" in the Pier-2 Art Center, Kaohsiung. In echo with the graffiti charm the Pier-2 Art Center had, we joined hands with Chunghwa System Integration and SAMSUNG. The 5G cellphones were integrated with the Raspberry Pi pressure sensors, graffiti App development, spray can mold designs, cloud computing, and 5G wireless transmission technology. Together with the music mixed by the DJ MR. SKIN local from Kaohsiung that set the vibe, people could do graffiti on the wall as if they were holding real spray cans in hands to spray paints and create on the large LED wall at will.

5G+XR Integrated Interactive Program Production [↗](#)

Our "Extensive Alliance" strategy is actively developed via the 5G technology deployment. We worked with Sanlih Entertainment Television in response to the 2021 "Subsidy for 5G Technology Innovation Applications in Audiovisual, Exhibition, and Performance" of the Ministry of Culture. The collaboration with Sanlih Entertainment Television provided us with Super Red, a Taiwanese pop music talent show. Through the 5G communication network and 5G camera kit, the footages of three filming venues were put together. Meanwhile, Sanlih Entertainment Television not just invited predecessor Taiwanese singers and classical figures of different times but also introduced Aki, a virtual singer, to perform together with singers of Super Red. Through technology for multiple individuals in the same frame, the audience online and on-site as well as performers of three different stages could interact with one another.

Education

"Little Directors of Good Digital Neighbor" to Cultivate Digital Competency in Video for School Children to Care for Local Issues [↗](#)

Chunghwa Telecom Foundation has been executing the "Little Directors" project for years. With digital applications at the core, it cultivates school children in rural areas to document local stories with their digital competency in video. In light of the outbreak in 2021, to protect the education equality in rural areas during the pandemic, we responded flexibly in line with the trend of digitalization. Combining the teleconferencing technology and broadband network service, we transformed the camp-based curriculum into a distance learning program for children in the rural areas to keep learning from home. During the journey of joint digital learning, we encouraged the children to bravely stand on the shoulder of technology. With the perspective of care for the local as the starting point and with digital images as their form of expression, they engaged social communication with the support of multimedia channels to convey and represent the beautiful values of local communities. There have been 196 Little Directors cultivated with over 70 short films produced since 2018.

Online Summer Science Program [↗](#)

5G communication integrated with technologies of AI and IoT is one of the major trends in the tech sector for the next 5 years. Hence, Chunghwa Telecom Training Institute designed brilliant courses in this regard, including "5G Smart Living" for knowledge of the most popular 5G applications and service models; "IoT Hands-on Workshop" to learn about how to use Arduino-enabled open-source software/hardware to produce the temperature/humidity box, digital clock, door and window sensors, and other gadgets in life rich in practicality and fun.

5G Innovative Application Competition [↗](#)

In response to the advent of the 5G network era, the first "5G Innovative Application Competition" was organized in 2021 with prizes totaled NT\$1.5 million. Participants developed new services in 5G application and various business arenas. Also, technical talents of the industries with interdisciplinary hands-on capabilities for innovation were uncovered. With topics derived from CHT 5G Cross-sectoral Integration Golden Circle and Special Awards for Smart Applications added (Smart Manufacturing, Smart Transportation, and Smart Healthcare) added, it drew nearly 200 teams to the competition with projects in the areas of 5G corporate network, smart transportation, smart telemedicine, smart inspection, AR corporate applications, and smart audiovisual streaming.

In the face of various work entries, the juries took creativity and novelty, completeness of works, as well as their commercialization values as the key criteria. Through the competition, we aimed to inspire more innovative 5G applications from the participants for Taiwan to create infinite possibilities for the future and build a wonderful smart living.



The Creative Industry Pilot

The SDGs CHT contributes to in this section



Apart from ongoing strengthening of the core telecom business, Chunghwa Telcom also actively invests in innovative ICT R&D to create new momentum for revenue growth. With the dedicated innovation and R&D institution, Chunghwa Telecom Laboratories, we uphold the values of "innovation, accountability, customer-oriented, and integrity." Setting eyes on the development of advanced network communication technologies and innovative ICT applications, we transform needs of customers into convenient and useful services, endeavoring to live up to the value of "customer-centric" to foster the vision.

Overview of Chunghwa Telecom Laboratories in 2021

- 1,298 employees (nearly 6.4% of total) with 93% being R&D personnel.
- The funding for R&D totaled NT\$3.69 billion, which was 1.75% of the consolidated operating revenue.
- The laboratories secured 167 new product/technical patents (152 domestic and 15 overseas) to a total of 2,577 (2,322 domestic and 255 overseas). 917 of the patents are currently in force (809 domestic and 108 overseas).
- Publication of 94 papers on journals (13 internationally and 81 domestically) and 42 papers on conferences (32 internationally and 10 domestically).

* Chunghwa Telecom Laboratories [🔗](#)



Innovative R&D Results in 2021

Freeway Bureau, MOTC

The silver award of the "7th Expressway ETC Data Application Creative Competition in Traffic Management"

Intelligent Transportation Society of Taiwan

The Intelligent Transportation Paper Award from ITS Association

Ministry of Economic Affairs

The Silver award of 2021 Ministry of Economic Affairs Energy Saving Benchmark Award

Taiwan External trade development council (TAITRA)

1 gold, 2 silver, and 5 bronze medals secured at the 2021 Taiwan Innotech Expo

The Telecom Laboratories Human Resources Structure



Innovation + Creativity to Create Sustainable Output Values

We constantly encourage creativity and innovation. To convert creativity to tangible output, drive industrial development, and boost revenues, we adopted strategies of concurrent advancement internally and externally. In response to the digital convergence and the cultural and creative trend, CHT presents Digital Innovation and Application Series themed with digital living. We uncover top-notch innovative talents through the competitions while allow creativity to be realized so as to elevate Taiwan's soft power in innovation.

* Marine Vacuum Cleaner + Energy Efficiency Environmental Service

CHT leveraged the emerging 5G technology and worked with the unmanned vessel, Marine Vacuum Cleaner, developed by Azure Alliance. With the outstanding 5G communication capability in speed and low latency, we control remotely and clean efficiently the marine debris, using technology to truly form a virtuous cycle as well as listen and respond to social needs. Thanks to the introduction of 5G technology, Marine Vacuum Cleaner can thus remove marine debris rapidly, serving as the last line of defense for the environment before waste at the port flowing to open waters, which is also in line with the sustainable development goal in "I Protecting" of Chunghwa Telecom.



In addition, to accelerate the pace of enterprises in energy-saving actions, our fervent colleagues with professional certificates and experiences in electric engineering, HVAC, or lighting served as corporate volunteers. Through the corporate collaboration mode, we worked with "Taiwan Energy-Saving Patrol" of Taiwan Business Council for Sustainable Development to promote the energy-saving testing service to help enterprises to obtain professional knowledge and the right ways to save energy, free of charge, so as to expand the influence of energy efficiency and carbon reduction from inside the Company to the society at large.

* MOD Microfilm & Golden Short Film Contest

To cultivate talents of digital video production and film art in Taiwan, we have been working with Taipei Film Commission in organizing MOD Microfilm & Golden Short Film Contest for eight consecutive years. The first prize this year was worth NT\$1 million with all the prizes totaled NT\$3.9 million to encourage students and individuals interested in film shooting to shoot films for participation. In response to the isolation of the Global Village due to the pandemic worldwide and to encourage citizenry to rediscover the beauty of Taiwan, in land and people alike, the CHT Collaboration Award this year was themed with "Islandic Stories." NT\$1 million was offered as the production fund to call for plans of short film in search of quality stories local to the island named Taiwan, shedding light on more beauties of Taiwan from the perspectives of film makers. There were 243 entries with diverse topics submitted this year. Also, numerous celebrated figures in the film industry were involved in the interdisciplinary performances, including Akio Chen, winner of the Golden Bell Award for Best Actor, and Kang-Sheng Lee, winner of the Golden Horse Award for Best Leading Actor, among others. There were 20 microfilms and 5 plans selected as the finalists for the NT\$1 million prize this year. The Finalist Film Festival was organized online instead. Brilliant works of the finalists were put up on MOD and Hami Video. Also, the short films series "Interviews with the Finalists" was added for people to appreciate the purposes of production and behind the scenes.



* [Event website](#) * [News link](#)

* FunPark Creative Storytelling Digital Picture Book Contest

FunPark Creative Storytelling Digital Picture Book Contest has been organized for 9 consecutive years. The purpose is to cultivate children's creative ability through the stories created and bring the stories to life through digital technologies. Owing to the pandemic, it was organized online instead this year.

In addition to the Lower-grade, Middle-grade, and Higher-grade of elementary school as well as the Anti-drug group, the category of "FunPark AR Book" reflection was also added this year for children to probe into the infinite AR creativity in the 5G realm and inspire their imagination for a deeper fun in learning in order to usher in a whole new 5G AR immersive experience and fun in reading. The Apps had over 610,000 downloads. The Awarding Ceremony was broadcast as a video program for the first time. The Head of Department of Legal System of the Ministry of Justice, Mr. Yu-Yuan Huang, and the Head of Department of Student Affairs and Special Education of the Ministry of Education, Mr. Lin-Huei Wu, gave their remarks in videos to encourage children and express their care for the contest.

* [News link](#)

The Happiness Value Protector

The SDGs CHT contributes to in this section



SMARTI

Strategy

- Enhanced talent recruitment with "5G + transformation" as the dual-track strategy
- Assurance of rights at work and freedom of association for all employees with the commitment of "employee at ease" to improve the labor-management communication and dialogue mechanisms

Management

- SGS Qualicert service certification introduced to service centers
- Signing of Employment Contract by all employees for rigorous compliance with the laws and regulations like the Labor Standards Act and regular organization of labor-management meetings
- Diversified benefits and incentives provided in the principle of "no layoff and no pay cut"



Action

- Execution of the three-level mechanism of inspection, verification, and consultation for service center customer service quality
- Promotion of the personal information manager and auditor certification system
- Provision of various, well-rounded, and quality service channels, online and offline
- Dedicated training units and OHS management units established
- Transparent and diverse employee communication and grievance channels
- Certificate of Conformity for Corporate Code of Conduct (CoC) issued by SGS

Response

- Electromagnetic radiation testing service
- The only Taiwanese telecom carrier with an established union
- The first telecom carrier in Taiwan to receive ISO 45001 certificate
- Childcare allowance in place for children aged 0-6 in line with the national childbirth policy and to retain young talents

Target

Short-term:

- Extensive recruiting talents in 5G application
- Talent incubation and sharing of corporate business achievements with employees; one-time special bonus of NT\$5,000 disbursed to "recruit professionals and retain talents" in 2021
- Making personalized high - quality products and services available to all our customers

Mid-long term:

- 2030: **30%** of variable compensation for senior managers tied with ESG/sustainable development performance

Indicator

- CHT** Talent in emerging technologies accounting for **26%**
- GRI** The base salary at CHT as **1.3** time of that in Taiwan; the average salary at CHT as **3** folds of that in Taiwan
- GRI** Training Hours Per Capita: **56.73** hours
- GRI** "Collective Agreement" employee coverage of **99.21%**
- GRI** No violation of laws concerns personal information, health, safety or product labeling

Ensuring Employees' Happiness

Protecting the Rights of Workers

Chunghwa Telecom treats employees as their most important business partners. To ensure the best protection for the work rights of the employees, Chunghwa Telecom signs an "Employment Contract" with each employee and undertakes to notify them of any changes in terms of employment in compliance with the Labor Standards Act. Furthermore, CHT uses several different channels, including seminars and labor-management meetings, to maintain harmony and a mutually beneficial working relationship with employees.

A Competitive Compensation System

The "Compensation Committee" is established. The disbursement directions are stipulated, especially for the remuneration of senior managers. Also, ESG/sustainable development is incorporated in the directions, which is materially tied with the compensation to the senior management. We offer competitive compensations to talents with potential. Through a transparent remuneration policy, employees are rewarded in line with the operational performance of the Company. The Company offers equal compensation for all entry-level employees of the same grade. Those who possess relevant skills and work experience may have compensation evaluated based on educational background, career experience, expertise, and professional qualifications. Under no circumstances will compensation ever be determined by gender or racial differences.



1. Average Salary in the Telecom Industry: According to the "Monthly Wage and Productivity Report, December 2021" published by the Directorate General of Budget, Accounting, and Statistics.
2. Base Salary of CHT: The average salary level in December 2021.

Benefits Expense of Full-time Non-supervisory Employees

Item	Unit	2020	2021	YoY
Full-time Employees	Person	20,957	20,322	-3.0%
Average Salary	NT\$ Thousand	1,489	1,507	+1.2%
Median Salary	NT\$ Thousand	1,467	1,478	+1.4%

1. The number of full-time employees is calculated on a "yearly average" basis. The total number of employees of the year (including the ones on leave without pay, separated, and retired) is subtracted by the number of managers before calculating the yearly average number of employees of the year based on the months of pay to the employees in service in a year, instead of based on the number of employees at the end of a year.
2. The definition of non-supervisory employees, please refer to p.42-45 of the Annual Report.

Human Resources Structure at CHT

In 2021, CHT has more than 20 thousand employees with an average age of more than 50 years old. There will be more than 5 thousand employees retiring over the next 5 years, and 50% of the employees will be eligible for retirement over the next 10 years. Current senior management is included in this retirement tide. To cope with this problem, CHT is actively cultivating new talents to ensure that knowledge is passed down, filling the manpower gap of new generations.

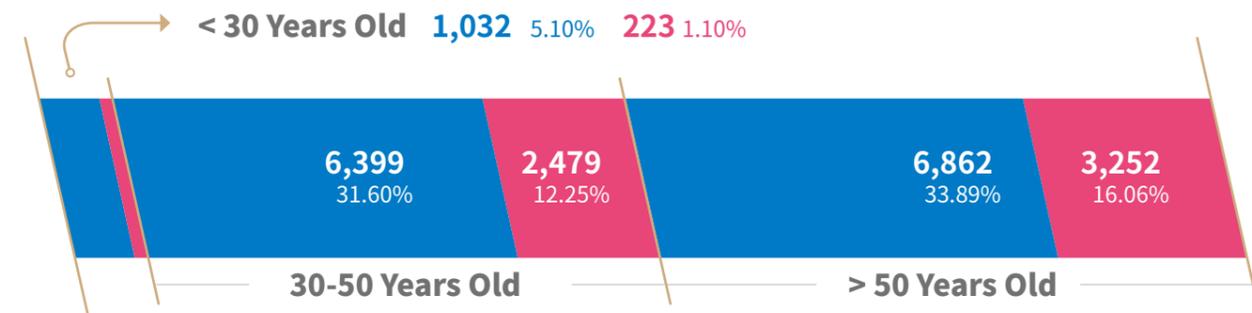
Chunghwa Telecom understands that the industry competition we are facing now is not only the telecommunications industry, but the changing information and communication industry chain. In the future, the recruitment direction of talents will be based on the large-scale public recruitment method which focuses on various professional fields. We will adopt an external network approach to transform Chunghwa Telecom's talents into an important kinetic energy for the continuous improvement of the next stage.

2021

Total Employees 20,247 persons

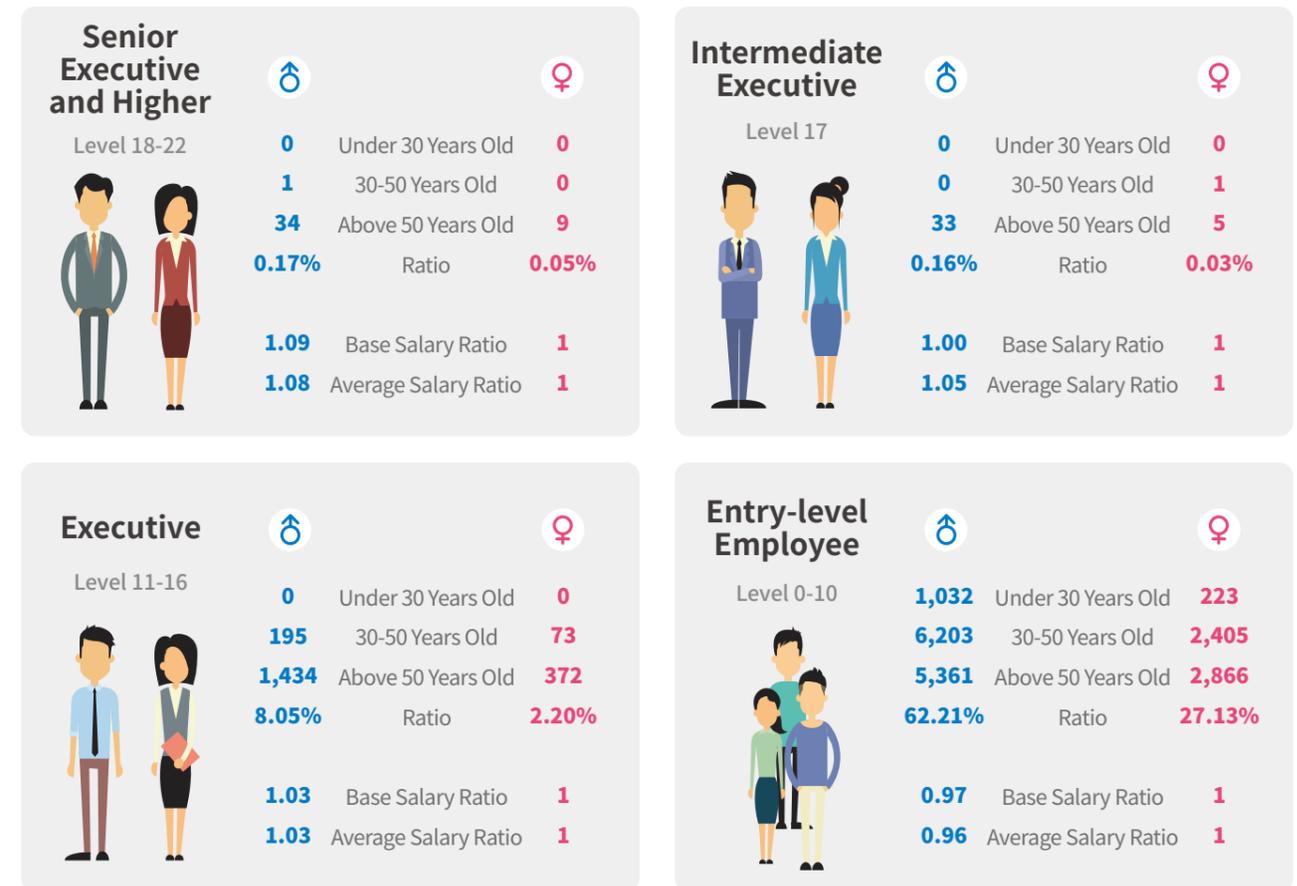


= **14,293** persons 70.59% + **5,954** persons 29.41%



Of all the employees in the reporting period, there were 20,247 non-fixed term employees. There were also 3 fixed-term employees, who were mainly responsible for works of quality assurance and labor health and safety management.

Number of persons in each grade and sex salary ratio



1. All CHT employees are nationals of Republic of China (Taiwan) and full-time non-fixed term employees.
2. For all grades, basic salary is defined as the fixed salary (monthly).
3. For all grades, average salary includes fixed salaries and variable portions (including the monthly salary, year-end bonus, bonus, etc.).
4. Levels of all grades: Basic 0-10; Executive 11-16; Intermediate Executive 17; Senior Executive 18-22.

2021 New Recruitments

1,180 persons / 5.8 % of total employees = **1,004 persons** + **176 persons** (85% / 15%)

Resignation of New Recruits	< 30 Years Old	30-50 Years Old	> 50 Years Old
15 persons / 1.3 % of all new employees	409 persons (34.7%)	767 persons (65%)	4 persons (0.3%)

New recruits rate = Number of new employees / [(Number of people at the beginning + number of people at the end) / 2]

2021 Employee Turnover

1,827 persons / 8.97 % of all employees

< 30 Years Old	30-50 Years Old	> 50 Years Old
50 / 10 persons (2.74% / 0.55%)	59 / 28 persons (3.23% / 1.53%)	1,369 / 311 persons (74.93% / 17.02%)

1. Turnover rate (resigned+retired) = Number of turnover employees / [(Number of people at the beginning + number of people at the end) / 2]
2. In 2021, there are 148 employees resigned (0.72% of all employees), and 1,679 employees retired (8.25% of all employees).
3. The turnover rate in 2018-2020 are 3.97%, 5.76%, 7.77%

Human Resource Structure of Honghwa International Subsidiary in 2021

male female

	Non-fixed Term		Fixed Term	
	male	female	male	female
Under 30 Years Old	487	449	21	13
30-50 Years Old	2,374	2,487	8	9
Above 50 Years Old	32	97	0	5
Total	2,893	3,033	29	27
Disabled Employees	27/28	29/35	2/0	0/0
Indigenous Employees	19	25	0	0


Honghwa

All employees are nationals of R.O.C.



Disabled Employees



Indigenous Employees

Gender Equality and Diversity

Chunghwa Telecom is committed to provision of a working environment with dignity and safety for employees. We implement employment diversity, equal pay, and impartiality in promotion opportunities, protecting employees from discrimination, harassment, or unfair treatment due to race, gender, religious belief, age, political inclination, or any condition thereof protected by the pertaining laws and regulations.

Chunghwa Telecom places great value on human rights and gender equality. In 2021, female staff accounted for 29.41% of the total, and 20.7% of the managers (senior director or above) were women. To conform to the essence of the Gender Equality in the Employment Act, the Company has outlined its sexual harassment prevention policy and established a "Complain Investigation Committee" that specializes in the handling of employee complaints about work-related discrimination and improper behavior. The investigation committee has 5 members, 3 of whom are female. Our effective control has resulted in no incident of discrimination being reported in 2021.



Gender Equality

To eliminate all forms of discrimination against women and realize gender equality, we encourage female employees to participate on all levels and develop in all areas. Measures of two aspects are executed and implemented to raise the ratio of females:

1. Recruitment

In the process of training for manager recruitment interview, topics of gender equality are introduced.

2. Training

The idea of gender equality is strengthened through the training courses for all levels of managers. Also, we promote that abilities and qualification should be taken into account for position promotion to increase the capacity and willingness of female managers. In planning the Executive Development Plan (EDP), on the basis of the success profiles model, outstanding female managers are selected. Then, in line with the competency evaluation and personality assessment, the female managers are developed and cultivated individually to better their managerial competencies.

The principle of fairness is implemented across all levels to establish a working environment of gender equality without any bias against any gender, so as to prevent discrimination and ensure a smooth promotion for our female employees.

male female

	346 242		35 16
Disabled		Indigenous	
total	588		51

Chunghwa Telecom has done more than comply with the quota required by Article 38 of the Persons with Disabilities Rights Protection Act and have hired more than the required number. In 2021, the number of persons with disabilities hired was 3.79 times of the statutory quota. (quota: 155; actual hire: 588. Where a department or institution employs a seriously disabled person in accordance with the act, the disabled person shall be calculated as two.) We had 51 indigenous employees on board in 2021. We fully respect their cultures and no violation of work or human rights was reported during the year.

The Only Telecom Carrier in Taiwan with a Union

Chunghwa Telecom is the only telecom carrier in Taiwan with a union established. We have signed a collective bargaining agreement with them which covers an extensive range of issues from redundancy, reward, discipline, promotion to health and safety. This initiative not only complies with local laws and international human rights conventions, but is also a show of our commitment to the protection of employee interests.

In addition to the union established by Chunghwa Telecom, employees have also assembled 14 other unions under the organization. Until February 2022, 99.21% of employees were union members. A labor director is appointed to sit on the Board of Directors for a worker's representative, through whom workers can more freely express opinions.

Chunghwa Telecom complies with Article 16 of the group agreement about transfers. If there is a need to transfer a union member due to changes in the organization such as establishment, alteration, merger, and/or closure of a department, the Company will do so only if necessary and will respect the wishes of the member. In addition, all transfers must comply with the "Five Principles of the Labor Standards Act."

Open Communication and Grievance Channels

We have open communication channels in place to ensure that employees needs or suggestions are heard. Any violation or misconduct in the workplace can be reported to the relevant department using the channels provided. There were 67 complaints in 2021, including behavior as disrespect of the CHT system, principles, administrative management, and violation of the employee code of conduct or other misconduct. There were no human rights related cases in 2021.

We hold regular labor-management meetings to maintain contact between employees and the employer. There are 9 representatives from each side, employer and employees. The chair is held by each side in turn. The Chairman and President of Chunghwa Telecom engage regularly with the Chairman of the Union, Directors, and Supervisors in meetings, in person and by telephone. The Chairman of the Chunghwa Telecom Workers Union is entitled to participate in disciplinary review meetings, performance appraisals, and business report meetings to ensure that workers are kept up to date on Company news. In 2021, the Company held 5 nationwide labor-management meetings during which employees and the employer were able to reach consensus on many issues. Meetings for the discussion of particular matters can be convened, or if any change to work conditions is necessary.



The Employee Grievance Channels



CHT intranet portal * <http://eip.cht.com.tw>

Accountable department Organization and Talent Development Department, Head Office (Room 503, No. 21-3, Section 1, Xinyi Road, Taipei City 100)

Hotline: 0800-080998
Fax: (02)2357-0007
Email: chthr@cht.com.tw

Focusing on Employee Training and Development

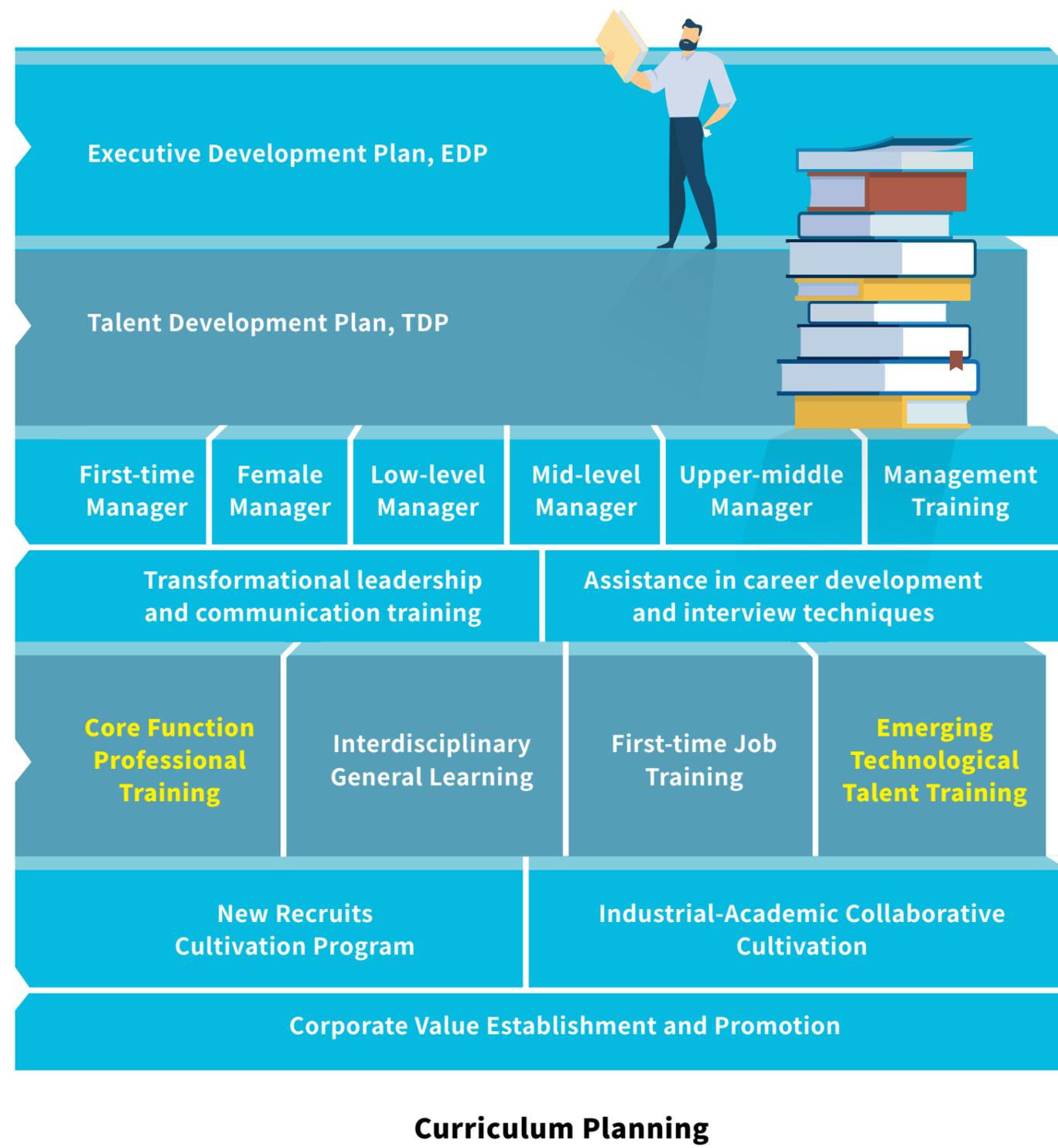
Our fundamental business focus is "core competitiveness, professionalism, efficiency, and touched service", and we seek to develop innovative talent through a combination of internal and external training.

We have a comprehensive training system to assist employee development in all dimensions. The system starts with the incorporation of "needs analysis" and "in-depth planning", and is followed by performance assessment and review after the program ends. This systematic approach enhances professional skill and work efficiency, and helps the Company improve its coordination of human resources. Also, it is connected with the operational benefits of the Company.



Talent Cultivation and Empowerment Program

The CHT Talent Cultivation and Empowerment Program aims to achieve Attraction of new recruits, Growth of employees, Leadership of managers, Opportunities for talents, and Winning in relay, a.k.a. AGLOW as the cultivation basis. Different professional courses are designed for employees of various positions from new recruits to current employees. Relevant trainings are tailored to managers of different levels. Also, accelerated training and development are available for employees with potential for them to be management candidates.



Diverse Learning Channels

To meet the needs of the organization, and the personal interest and even the personality traits of employees, the Telecom Training Institute provides a diversity of learning channels. These help employees develop new in-depth professional ability as well as a renewal of their management skills to bring about growth and proper career development. Employees can attend training at the Telecommunication Training Institute during regular hours, in the evening or on holidays. The institute can also dispatch tutors to relevant business units for organized training sessions. The institute offers 8 learning channels: class teaching, distance education, digital learning, mobilization digital learning, direct-broadcast courses, external programs, on-site tutoring, and the digital library



5G X ABC Employee Digital Empowerment Program

We aspire to become "Leader of Smart Life; Enabler of Digital Economy." To cultivate next-generation digital technological talents, we launched "5G X ABC Employee Digital Empowerment Program." Together with the commercialization of 5G networks and services, we facilitate employees to fully understand the technical features and applicable scope to expand the 5G smart applications. Through the professional education, relevant curriculum design was conducted in consideration of the respective professional levels and means for learning to actively promote 5G X ABC professionals to keep up with the new epoch of digitalization.

The professional courses in 5G X ABC Program were offered by means of internal/external trainings, including the digital general courses, offline seminars, program certification, and online livestreaming. The 5G learning map was laid out. In line with the respective professional level, the general courses, professional certifications, seminars, were designed, along with relevant online livestreaming courses offered during 2020-2021 in response to COVID-19. All employees completed the tests of 5G digital general courses in 2021.



5G Corporate Client Seminar

It was organized for product PMs in forms of experiences and workshops to probe into pain points and solutions tailored to different industries. A total of 5 sessions were organized for 194 participants in the duration of 2020 to 2021.



Global Public Cloud Certification Trainings Organized

Trainings and certification consultation for AWS, Azure, and GCP were organized in 2021 to help institutions to obtain 115 certificates in global public cloud services.



5G X ABC Professional Program **NT\$127 million invested**

- In line with the 5G business development and to foster domestic industrial ecosphere and innovative application, a total of 29 employees passed the certification in the 5G smart technology application program certification. Also, 5,199 participants receive trainings in the courses of 5G Technology Study series to prepare talents necessary for the 5G development.
- 42 professional seminars were organized for 3,425 participants, including 5G and IoT Development Trends & Service Application Seminar, Digital Economy and Data Application Practices, and FinTech Data Analysis Application Seminar.



5G Testing & Training Venues Installed **NT\$10 million invested**

Combined with activities like training courses and campus visits, totally 25 sessions of 5G training courses or seminars were organized with up to 2,650 participants involved.



Incentives for Learning

Personnel that obtained relevant certificates were rewarded with full subsidy to skill tests. A total of 316 employees were subsidized in 2021 with a total amount over NT\$1.9 million. Also, additional bonuses were offered to personnel that obtained the designated certificates (e.g. public cloud certificates). A total of 108 employees received the bonuses totaled NT\$240,000. For employee that obtained certification from the Training Institute or externally, the Award of Further Study for Relevant Work was created to award such employee with a NT\$10,000 prize and a medal. 10 employees are awarded each year.

Dedicated Training Units

Chunghwa Telecom has founded the Telecom Training Institute that specializes in training technical as well as managerial talent to gain more core competitive advantages. A Talent Development Team has also been established, with the President as convener, to conduct regular reviews of the planning and outcome of training. This is important to ensure that the training outcome is closely aligned with the operational policy to achieve a "seamless combination of training and practice". It was awarded with "Certificate of Talent Quality-management System (TTQS) – Gold" and the "2021 National Talent Development Award" in the Organization (Institution) Category by the Workforce Development Agency, Ministry of Labor in 2021.

* [Chunghwa Telecom Telecommunication Training Institute](#)



New Employee Orientation

To provide new recruits with a general understanding of company vision, values and culture and help them adapt to the new criterions and work environment, the "New Recruit Counseling Guidelines for Chunghwa Telecom and Subordinate Institutions" was introduced in 2014 as well as a counselor system and e-Learning audio courses to accelerate the new employees blended into new work.



Recruitment and Development of the New-Generation Talents

We endeavored to develop important businesses in 5G, IoT, AI, and cybersecurity. Formulating the golden trinity of Chunghwa Telecom, "Innovation First, Technology First, Talent First", we built the stage for youth to shine, fostering the values of ONE CHT.

- **Recruiting professional talent** in ICT, AIoT, 5G application, technology innovation, and other new business opportunities.
- **The nurturing of the next-generation talent:** The Company introduces new talent-training programs on a yearly basis. It provides employees with professional and diverse training options, and certifies the development of skill.
- **Emerging businesses:** New ICT technologies are being infused with knowledge from other fields. The Company will focus on training professionals who can adapt and apply their knowledge across several different fields of expertise such as cloud computing, big data, and product packaging to actual practices.
- **Next-Generation Growth Camp:** With courses combined with campus experience and challenge activities, participants could quickly learn about how the 5G technology drives the digital transformational across various vertical markets and the 5G development strategies of the Company. In 2020-2021, 9 sessions were organized (with 1 session postponed to 2022), cultivating 1,381 individuals.

Nurturing of Professional Talents

Chunghwa Telecom is dedicated to providing employees with a diverse learning environment. In 2021, Chunghwa Telecom training expenses exceeded NT\$451 million and employee training sessions totaled 1,150 thousand hours. We encourage employees to commit themselves to long-term learning. Subsidies were given to 237 employees in 2021 and the Company compensation amounted to NT\$3.77 million. The subsidy for advanced studies, academic degrees, or certificates is 100% applied to all employees.

	2019	2020	2021
Total Training Expense (NT\$ thousand)	497,901	493,000	451,380
Training Per Capita (NT\$)	22,938	23,555	22,294
Total Training Hours	961,234	1,045,267	1,148,601
Training Hours Per Capita	44	50	57

Due to the pandemic impacts, livestreaming via Teams was adopted for certain courses. The total training hours were raised by 9.89% with a 14% increase for the average training hours per capita. Also, there was a significant reduction in the training expense per capita.

Employee Happiness at Work and Engagement Survey

Since 2011, we have carried out annual "Chunghwa Telecom Happiness at Work Surveys" on an anonymous basis. This helps us to understand how employees feel about their work and their working status, and are used as a reference for the improvement of management. The survey topics include individual opinions about the working environment, welfare and corporate transformation. By listening to the opinions of the employee, we get to understand their feelings and expectations.

The 2021 "Happiness at Work" survey is in a hundredmark system. In total, 7,466 questionnaires were returned (37.65% response rate), 6,979 of which were determined to be valid (93.48%). The average score of "Happiness at Work" is 82.81, and the average score of "Employee Engagement" is 90.1. The measures in this survey included organization identification and welfare; core values; work and development; working environment; and management leadership culture, among which the measure for satisfaction with core values was the highest, and that with management leadership culture the lowest. Hence, we enforced improvements based on the survey results, including organizing management communication sessions and employee communication sessions, curating management leadership elevation courses and expert lectures, as well as conducting various employee experience surveys.

We successively provide specific responses to issues reflected by our employees and constantly communicate with them. Also, by improving various employee benefits and appreciating employees' thoughts, we expect our employees to identify with the Company and work at ease to drive the corporate competitiveness. The improvement mechanisms that follow shall be ongoing listening to the voices of employees. Meanwhile, optimization assessment of the survey results will be conducted. We continue to offer competitive compensations for talents with potential, rewarding our employees the operational performance of the Company via the transparent remuneration policy.

Fair Evaluation

Chunghwa Telecom now applies "Employees Performance Evaluation Guidelines" which are used in the appraisal of employee performance to develop the corporate culture where employees, customers, shareholders, and the Company will all be winners. Supervision will be provided for underperforming employees who will be guided until the appropriate improvement has been made and they are back on track.

CHT conducts performance appraisal at two levels: general staffs and senior managers. Performance appraisal involves a series of face-to-face discussions between employees and line managers at the beginning of a year to set personal goals, and also at mid-year and years end to evaluate the degree of employee contribution to the Company. Performance bonuses and employee remuneration are tied to individual performance.

In addition to linking employees' salary bonus to their annual performance, CHT has established a reward of senior employees, which is payable on a one-year deferred basis and apply to all employees, provided that the employee has a certain standard of continuous service and recent performance appraisal results.

Disbursement directions are formulated for remuneration of senior management. The remuneration is exercised systematically and disclosed publicly in the Annual Report in compliance with the laws. For basic specialist position on the same level, individuals are employed with equal treatment. Also, remunerations are evaluated based on the academic backgrounds/experiences, expertise, and certificates of individuals with relevant expertise and work experiences, regardless of gender or ethnicity.

Health and Safety Management

Introduction of ISO 45001 Occupational Health and Safety Management

Chunghwa Telecom was the first telecom service provider in Taiwan to adopt the OHSAS 18001 Occupational Health and Safety Management System. In response to ISO 45001 released by ISO in 2018, we initiated the verification process for ISO 45001 promptly to align ourselves seamlessly with the global trend in health and safety. All of our 27 institutions completed the verification to ISO 45001 in 2021. We shall better our objectives in workplace safety and health management, "ongoing improvement in safety and health facilities; establishment of a safe, healthy, comfortable, and friendly working environment; reduction of work-related accidents".

In addition to identifying hazards and assessing the risks associated with telecom operations, the Company has also applied restrictions and enhanced risk control for high-risk tasks, while taking effective precautions to reduce occupational hazards. In addition to complying with safety and health regulations, the Company has also been active in the improvement of the current work environment and takes regular action with regard to safety and health facilities and measures.

We actively participate in activities related to healthy workplace. 5 branch institutions were presented with the awards of "Healthy Workplace Certification – Health Promotion Label" in 2021. In 2019-2021, 6 branch institutions won the awards.



Follow the Safety and Health Regulations and Enforce Self-Management



Implement Hazard Identification and Enforce Risk Control



Strengthen both Mental and Physical Health Services

Encourage Participation through Open Communication and Consultation



Continue the Improvement of Equipment and Create a Quality Work Place

Conduct Safety Training Programs to Raise Safety Awareness



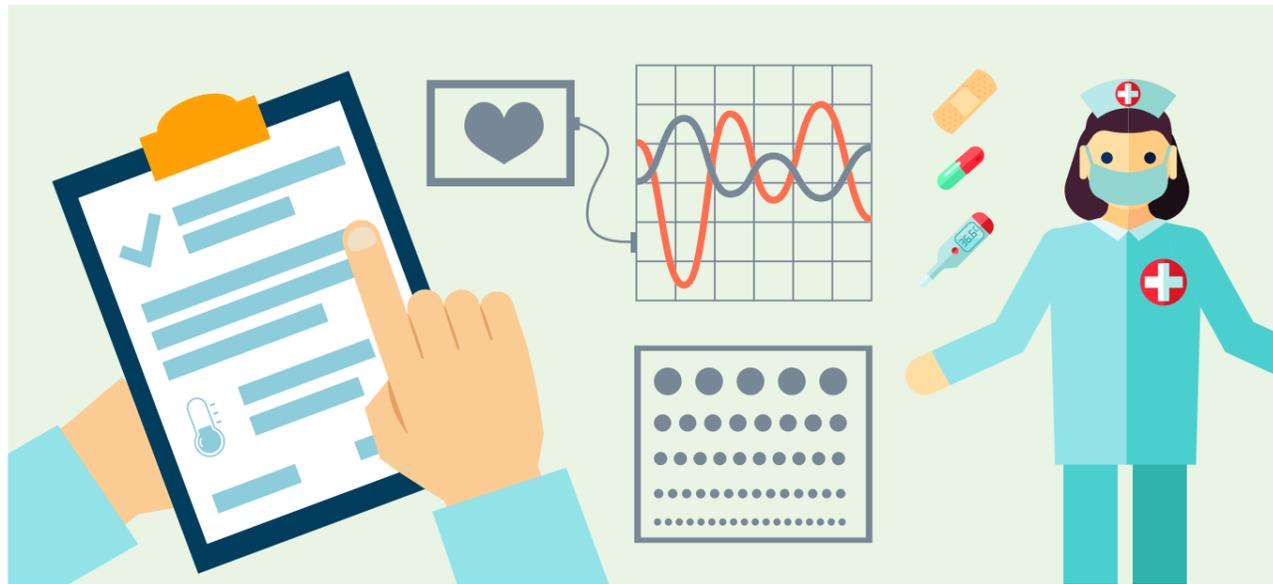
*For more details of GRI 403 and ISO 45001 Occupational Health and Safety Management of Chunghwa Telecom, please refer to [\[link\]](#)

The Dedicated Occupational Health and Safety Management Unit & Broadened Labor Participation

Dedicated occupational health and safety management units are instituted at Chunghwa Telecom and the subordinate institutions thereof in compliance with the laws. The units are responsible for formulation of occupational health and safety management plans, promotion of matters such as identification, assessment, and management of hazards in working environment and operations, implementation of autonomous inspections and environment monitoring of machinery and equipment and before operation, as well as ongoing improvement to the health and safety facilities to foster a working environment that is safe, healthy, comfortable, and friendly.

The "Labor Safety and Health Committee" has been established at all CHT institutions with labor representatives accounting for one third or above of the seats. The committee convenes quarterly to deliberate, coordinate, and advise on matters pertaining to health and safety. There is also Labor Safety and Health Department, which is responsible for the planning and implementation of labor safety and health matters.

The head office's Labor Safety and Health Committee has 30 members, 10 members are from the labor union, accounting for 33.34%. 4 meetings were held in 2021 and 15 proposals were presented by the labor representatives, 9 were related to the refinement of safety and health management, and 6 were related to employee benefits. All of the above are solved.



Full-Time Physicians and Nurses to Improve Employee's Health Management

To better provide immediate medical assistance and attend to worker health, we engaged 22 full-time nurses and contracted 19 physicians in 2021 for this specific purpose. Also, we set up health service centers at ten locations, including the Xinyi Campus (Yilan and Hualien included), Aiguo Campus, Daan Campus (Keelung included), Guoguang Campus (TTI included), Taoyuan Branch, CHT-TL (Hsinchu and Miaoli included), Taichung Branch, Taichung Branch of the Mobile Business Group (Nantou included), Changhua Branch (Yunlin included), as well as Linsen Campus (Pingtung and Taitung included), offering health services, consultation, and care.

The contracted doctors help with the on-site inspection at the offices, offer advice in line with human factors engineering for employees using computers at work, and adjust the heights of computers and chairs. The procurement of office equipment, besides in conformity to "the materials technical specifications" of the Company, is in compliance with national standards. Also, we conduct monitoring and keep records of the temperature, humidity, illuminance, noises, indoor air quality (CO₂) in the working environments for our employees in order to ensure the comfortability and safety of working environments. All the monitoring results in 2021 were in line with the regulations.

24 sets of workplace health management physiological (blood pressure) measurement system are deployed in our facilities. Combined with our "Enterprise Healthcare System (EHS) and Personal Health Record," our employees can monitor the changes in their blood pressure anytime.



Health Promotions for Senior Employees

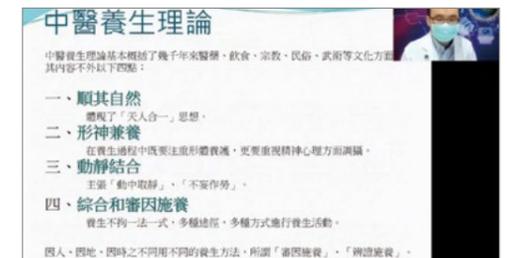
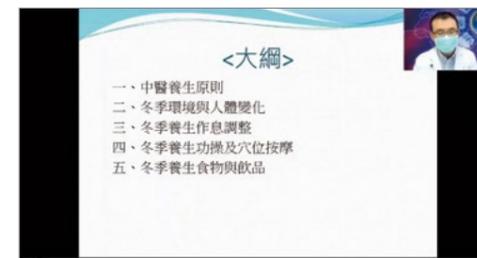
The health checkups for the elderly in 2021 promoted autonomous health management actions from inside out. Apart from physical exercise, the support system among friends was established through the activities.

1. Health checkups

The Company provided checkup services specifically targeted at senior employees, including carotid duplex and echocardiography for the risk of ischemic stroke, coronary artery narrowing and incomplete heart valve closure, as well as fundus photography for checking macular degeneration, retinal vessels and glaucoma.

2. Health promotion lectures

To improve our employees' knowledge and skills in epidemic prevention during the pandemic, Chunghwa Telecom Training Institute established "H channel" health series video-based program. Employees could access various thematic health promotion courses online. Besides in conformity with the epidemic prevention regulations, it allowed the employees to acquire knowledge and skills for epidemic prevention and healthcare. The course contents encompassed healthcare, osteoporosis, physical/mental stress management, cardiovascular disease prevention, etc. A total of 2,505 employees accessed the program in 2021.



Reducing Occupational Hazards

The Chunghwa Telecom Work Accident Guidelines contain detailed procedures for assessing occupational illness. Employees suspected of having become ill as a result of their occupation are assisted with an application for verification at the local municipal/county/city authority, in accordance with the Protecting Workers from Occupational Accidents Act. We manage risks at the source, by making sure that construction risks are under control from the early design stages of a project. The line construction management system has been amended with respect to highlighting high-risk operations as well as risk assessment information to ensure operators are able to identify potential risk in advance.

All high-risk operations are subject to approval by the ICT. Workers are also required to take site pictures with handheld devices and upload them to the monitoring system so that precautionary measures can be identified and taken to prevent such accidents as falls, oxygen deprivation, etc. To promote employee awareness and safety and health skills, we organized 174 training sessions in 2021 and there were 16,938 enrollments.



The "eSafe Wizard" App

As part of our effort to mobilize management, the eSafe Wizard App allows employees and contractors to report safety violations, and apply for operation permits. The App also allows us to remotely perform spot checks on safety compliance, moving the entire management process onto the cloud. It is completely paperless, instantaneous, and highly effective. Through the eSafe Wizard App, the completion rate of permit applications for operations (hot work, work aloft, scaffolding, power or fire protection interrupted) hit 100% (temporary work stoppages due to weather, accident with sensitive station, or postponement of prior construction excluded) while that of hazard notification reached 100% in 2021.

Table of Work-related Injuries and Illnesses of Employees and Non-employees in 2021

♂ male ♀ female ● total

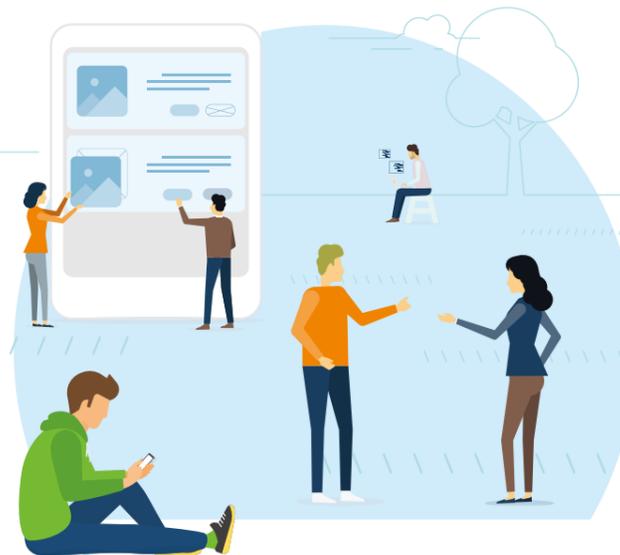
Workers	CHT			On-site Contractors		
Number of hours worked (hr)	40,332,024			11,687,720		
Number of recordable work-related injuries (person)	37	2	39	6	1	7
Recordable work-related injuries rate	0.92	0.05	0.97	0.51	0.09	0.6
Types of work-related ill health	Traffic accidents, Fall			Fall, tumble, or dog bite		

1. Number of hours worked: 8 hr*number of people *number of working days.
2. Fatalities as a result of work-related injury rate =(Number of fatalities as a result of work-related injury / Number of hours worked) × 1,000,000.
3. High-consequence work-related injuries rate (disabled for more than 6 months)=(Number of high-consequence work-related injuries / Number of hours worked) × 1,000,000.
4. Recordable work-related injuries rate =(Number of recordable work-related injuries / Number of hours worked) × 1,000,000.
5. Definition of On-site Contractors: individuals or organizations that work on the operation sites of Chunghwa Telecom. Statistics were compiled based on the data of HongHwa International Corp.
6. The main types of work-related ill health: traffic accidents, fall, tumble, or dog bite.
7. Traffic accidents during commute is excluded.



Health Promotion Activities

Providing a safe and healthy workplace is a basic requirement to our employees. On average, employees spend over a third of their day in workplace. Hence, apart from a wide range of benefits, including health checkup, keynote speeches, and promotional activities, we also commit ourselves in the promotion of sports in workplace and in the support to sports industry. In 2021, we spent NT\$71,196 thousand on employee health care.



Item	2021 Contributions
Health Examination of Employees and Dependents	<ul style="list-style-type: none"> The Company offers much better care than required by law and employees are given the choice of various health checkup packages. A total of 19,048 employees had checkups in 2021. Family members are also entitled to checkups at the same rate, and a total of 3,012 persons participated in 2021.
Free Influenza Vaccination	<ul style="list-style-type: none"> Free influenza vaccination is available for all employees who fit the requirements for vaccination at public expense. Registration can be done online and 1,170 employees were vaccinated.
Employee Assistance Program (EAP)	<ul style="list-style-type: none"> CHT was one of the largest corporations in Taiwan to start promoting the Employee Assistance Program (EAP) since 2007. The EAP carries out 5 consultation sessions each year, in which outside experts are contracted to help employees resolve their legal, medical, family, workplace, and stress problems. Case managers made 7 visits and completed 523 service sessions in 2021.
Employee Health Promotion	<ul style="list-style-type: none"> A total of 6,912 employees participated in 121 health seminars. 5,152 employees attended 37 educational trips. Health examinations were given to 3,726 employees in 23 sessions and 10,602 employees participated in 170 large-scale events. The Company published two health-related articles each month about the concept of disease prevention.

Item	2021 Contributions						
Healthy Workplace	<ul style="list-style-type: none"> The noise level, lighting, temperature, humidity and air quality of our offices is tested regularly. The offices are also cleaned and maintained on a regular basis to ensure workers have a comfortable working environment. Furthermore, all offices feature ergonomic chairs, natural ventilation, indoor plants and other elements of a healthy work environment provided. 						
Flexible Working Hours	<ul style="list-style-type: none"> Chunghwa Telecom provides two flexible working hour sessions in the morning and afternoon: 8:00-9:00 and 17:00-18:00. The periods of 07:30-9:30 and 16:00-18:00 during workdays are flexible hours for employees to come to and off work at Chunghwa Telecom Laboratories as of December 15, 2021 for employees to balance between work and family, which is scheduled to expanded to other institutions in 2022. 						
Employee Health Service	<ul style="list-style-type: none"> Provide employees health consultation via online or phone appointment. Physicians visited the plants 34 times a month. Sessions were for 3 hours and each patient was allocated 30 minutes. Healthcare personnel use the Employee Health Management System for the analysis and evaluation of health records. Where necessary, extra consultations can be arranged between the physicians and the employees for proper guidance and healthcare. <table border="1" style="width: 100%; text-align: center;"> <tr> <td>Thirty-minute medical consultation with a physician (30 minutes / per person)</td> <td>On-site visits by physicians</td> <td>Consultation with a nurse</td> </tr> <tr> <td>2,605</td> <td>322</td> <td>16,693</td> </tr> </table>	Thirty-minute medical consultation with a physician (30 minutes / per person)	On-site visits by physicians	Consultation with a nurse	2,605	322	16,693
Thirty-minute medical consultation with a physician (30 minutes / per person)	On-site visits by physicians	Consultation with a nurse					
2,605	322	16,693					
Employee Cafeteria	<ul style="list-style-type: none"> Our employee cafeteria offers a diverse range of nutritionally balanced meals to choose from. All food suppliers are subjected to rigorous review to ensure the safety of food served to our employees. SGS, a professional audit entity, is commissioned for tests of ractopamine, animal drugs, preservatives, and sulfur dioxide. 						
Balancing Work and Life	<ul style="list-style-type: none"> Chunghwa Telecom has 30 hostels that provide travel accommodation, encouraging employees to achieve a balance between work and life. 						
Telecommuting	<ul style="list-style-type: none"> Call Forwarding: calls forwarded from office phones Instant Messaging, Video Conferencing: Teams, a teleconferencing software, used Mail Delivery: mail delivery via Web mail and Exchange OA Online Administrative Operation: using HiGate for telecommuting or mobilized administrative services on cellphones 						
COVID-19 Epidemic prevention leave	<ul style="list-style-type: none"> "Official leave for epidemic prevention" to 95 personnel during the epidemic prevention period with a total of 4,017 hours granted "Epidemic prevention childcare leave" for taking care of children at age 12 or under without pay or impact to attendance granted to 184 employees with 12,402 hours in total Official leave for vaccination to 16,279 employees in line with the government policy for epidemic prevention with a total of 111,479 hours granted 						

Building a Happy Business

Employees are the foundation for the growth and competitiveness of Chunghwa Telecom. A happy family life of employees is the essential driver to our sustainable business development. We offer a commitment to our employees refrain from making layoffs and salary reductions. In response to the government's policy to boost birth rates, CHT is providing childcare subsidies and maternity benefits to young employees with children aged 0-6 years old.

Through the software/hardware allocated, we shall set up 16 workplace childcare support centers in 9 locations in Taipei City, New Taipei City, Taoyuan City, Taichung City, Tainan City, and Kaohsiung City to take care of the children and grandchildren of employees aged 2 to 6 years old, which are expected to open in August 2022. With services of education and childcare provided, we endeavor to foster a friendly workplace to put employees at ease so as to perform to the best of their ability and create utmost values for themselves and the Company.

Item	Activities and Description	Number of Participant / Beneficiaries	Contribution / Supplement
Maternity Allowance (Company Issued)	We offer a 6-month maternity allowance in compliance with the Employment Insurance Act. CHT also offers additional monthly allowances totaling half the sum assured under the Labor Insurance Scheme.	101 persons	NT\$13,926 Thousand
Childcare Allowance (Company Issued)	Employees with children aged 0 - 6 years old will automatically receive childcare allowance of NT\$6,000 per year.	3,568 persons	NT\$17,426 Thousand
Sports Activity	Regional activities include 3 road running events, 188 hiking activities, 44 ball sports activities and 366 other activities (e.g. stair-climbing, health exercise, strolling, and health promotion lectures).	38 thousand persons	NT\$11,157 Thousand
ESOT	Improvement of employee welfare, enhancement of employee coherence, and sharing company achievements.	17,224 persons	NT\$2.4 Thousand/ month per person
Dependent Education Subsidy	Twice a year (two semesters).	17,645 persons	NT\$73,954 Thousand
Wedding Subsidy	A wedding subsidy is available for employees who are to be lawfully married.	209 persons	NT\$522.5 Thousand, NT\$2,500 per person
Childbirth Subsidy	Employees or their spouses are eligible for a childbirth subsidy.	396 persons	NT\$990 Thousand, NT\$2,500 per person
Funeral Subsidy	A funeral subsidy is available in the event of the death of a parent, foster parent, step-parent, the spouse or a child of an employee.	693 persons	NT\$3,465 Thousand, NT\$5,000 per person
Recreation and Sports Space	Includes an integrated stadium, swimming pool, tennis, badminton, basketball, and table tennis courts, multi-functional event space, karaoke room, and employee dormitories.	Total 13,103 square meters	

The benefits are provided to the non-fixed term employees of Chunghwa Telecom, but not for those of subsidiaries.

Leaves Better than the Statutory Requirements

Item	CHT	Labor Standards Act
Annual Leave	<ul style="list-style-type: none"> Employment years 7:21 days Employment years 10:28 days Employment years 15:30 days 	<ul style="list-style-type: none"> Employment years 7:15 days Employment years 10:16 days Employment years 15:21 days
Funeral	Better than the statutory requirement for certain kin	-
Personal Leave	5 days of personal leave with pay	No pay
Family Care Leave	7 days for personal leave and family care leave combined	No pay
Sick Leave	Full salary	Half salary
Menstrual Leave	Full salary	Half salary
Maternity Leave	42 days regular leave, rest day, and national holiday not included	8 weeks regular leave, rest day, and national holiday included
Pregnancy Checkup Leave	8 days	5 days
Miscarriage Leave	Full salary	No pay



Better Maternity Benefits than the Legal Requisites

We have been implementing an unpaid childcare leave system since 2006 to help employees juggle their attention between work and family. The employees who have taken childcare leave are entitled to receive a six months maternity allowance from the authority under the Employment Insurance Act. While six months expiry, the Company will further pay an additional childcare-subsidy of half assurance sum of Labor Insurance Scheme according to its policy. Employees of Chunghwa Telecom are also entitled to other privileges such as family care leave, paternity leave, menstrual leave, and a nursery room service. In 2021, 88 employees applied for unpaid childcare leave; 101 employees applied for child-care leave allowances. NT\$13,926 thousand was paid out as childcare leave allowances. In 2021, the epidemic prevention childcare leave was provided additionally in response to the pandemic.

Starting from January 1, 2022, any employee with the need to care for child at age 3 or under may apply for 1 work hour reduced per workday with full pay and without impact to attendance or performance appraisal. There are approximately 1,200 employees eligible to the application in 2022. As of the end of February 2022, there were 746 applicants. Should we calculate with one work hour reduced per day for childcare and 20 days per month, it is equivalent to an additional salary payment of 2.5 days per employee per month with 30 days for childcare a year.

Year	Item	Male	Female	Total
2021	The Number Qualified for UPL for Raising Children 2021 (A)	842	369	1,211
	Number of Applications for UPL 2021 (B)	15	73	88
	Application Rate for UPL (B/A)	1.8%	19.8%	7.3%
	Number of Expected Reinstatement 2021 (C)	17	72	89
	Number of Applications for Reinstatement 2021 (D)	13	73	86
	Reinstatement 2021 (D/C)	76.5%	98.6%	96.6%
2020	Number of Reinstatement 2020 (E)	12	66	78
	One Year Retention after Reinstatement 2020 (F)	12	66	78
	Retention Rate 2020 (F/E)	100%	100%	100%

1. The number of employees entitled to apply for a parental leave of absence in 2021 (A): calculated as employees who had applied for maternity leave and parental leave in 2019-2021.
2. The number of expected reinstatements 2021 (C): The number of employees who applied from 2019 to 2021 and should be reinstated in 2021.
3. The number of actual reinstatements 2021 (D): The number of employees who applied from 2019 to 2021 and were reinstated in 2021.
4. Reinstatement rate: (actual number of reinstated employees that year/number of employees who should have been reinstated that year) × 100%
5. Retention rate: (the number who continued working after reinstatement/reinstated number for the previous year) × 100%

Retirement Benefits

Employee requests for retirement are processed in accordance with the Chunghwa Telecom Employee Retirement Pension and Separation Guidelines, the Labor Standards Act, and the Labor Pensions Act.



The Labor Standards Act: The Company makes monthly pension contributions of up to 15% of an employees' monthly salary to the pension fund. This fund is held under the auspices of the Labor Pension Supervisory Committee. The current balance of the pension fund account is 34.3 billion.

The Labor Pension Act: The Company makes monthly contributions of no less than 6% of an employees monthly salary. These contributions are deposited in the employees pension account held by the Bureau of Labor Insurance of the Ministry of Labor, in accordance with the Contribution Rate Sheet approved by the Executive Yuan.

Monthly pension contributions were made in accordance with the Monthly Contribution Wages Classification Scheme published by the Ministry of Labor, subject to biannual adjustments.

Lifelong Learning and Training Programs

To help our employees to adapt and create quality lives after retirement, Chunghwa Telecom Training Institute was commissioned to organize "Care Program for Retirees' Sweet, Happy Lives". A total of 10 sessions were organized with 1,609 person-times involved in 2021. Also, we continued to contribute to "Chunghwa Telecom Retirees Association" with an amount of NT\$4.5 million to support them to organize relevant activities. We also donated NT\$1.5 million for travel activities and NT\$300,000 for the meal expenses of all volunteers across branches during the Lunar New Year

To help facilitate the transfer of knowledge and experience, we have stipulated "Consultant Recruitment Guidelines" to hire paid consultants and honorary consultants. Managers at a position of Senior Executive Vice President or above, or the head of Level-1 institutions, may be hired by Chunghwa Telecom as paid consultants after retirement. Paid consultants shall serve a term of no more than one year, and assume honorary consultants upon the day after one-year period has expired.



Human Rights Value Protection

We proactively monitor and protect human rights. We respond to the UN Declaration of Human Rights and the ILO Convention on the elimination of all forms of discrimination and the prohibition of forced and child labor. We also respond to the UN International Covenant on Civil and Political Rights and the International Covenant on Economic, Social, and Cultural Rights, dedicating to promote human rights awareness and assure respect and fair treatment to all stakeholders.

CHT is a member of the International Telecom Union and we fully comply with International Radio Regulations. The regulation concerning: freedom of communication, transparency in global roaming charges and competition, support of Telecoms in developing nations, telecom services for persons with disabilities and the freedom of speech over telecom networks. In addition, we follow the UN Guiding Principles on Business and Human Rights by conducting a human rights due diligence investigation and make sure that each human rights issue in the operational value chain is evaluated and we maintain all risk at a minimum level.

Human rights issues include anti-discrimination, gender equality, freedom of association, collective bargaining, child labor, forced or compulsory labor, and indigenous rights.



Human Rights Material Risk Issues



Local Human Rights

To fulfill the concept of anti-forced labor and appropriate working environment, we required the bidders to sign a Declaration of Minerals as Conflict-Free during procurement. We evaluated the suppliers to determine if raw materials derived from human rights high-risk areas like the Democratic Republic of the Congo to avoid harm to the basic human rights of local residents while we providing ICT products and services. We depend on demand and require the suppliers to provide certification of material resources, third-party verification or accepted auditing to confirm no related violations.

We also required that all suppliers complied with the Restriction of Hazardous Substances Directive (RoHS) to prevent hazardous substances from the source endangering local employees, the environment or customers.



Customer Human Rights

Due to the nature of our industry, in addition to establishing information security management applicable to the enterprise operation, we also implement measures to safeguard our customers' personal information. We implemented information security in compliance with the international standards ISO 27001 and BS 10012 and carried out regular supplier auditing and supervision through employees or a third party. We also carried out vulnerability scanning and the testing of all equipment and software from outside suppliers to ensure there were no back-doors or malware.

Besides acquiring the customer's agreement before the collection of any personal information, we established the internal Security and Safety Principle of Customer Information Re-use. Related information also complies with the principle of no names are revealed to prevent the downloading of personal information and avoid leakage or disclosure.

To prevent damage from the products or services to stakeholders, the measured values such as that of environmental electromagnetic wave should be in line with the "recommended non-ionizing radiation exposure limits for the general public in non-occupational environments" released by the International Commission on Non-Ionizing Radiation Protection (IC-NIRP). Citizens may apply for the free base station electromagnetic wave measuring service to reduce the concerns in health and safety of the people in communities.



Employment Human Rights

We use the Occupational Health and Safety Management System (ISO 45001) to avoid potential risk and have systematically fulfilled employee safety and health management. In addition to compliance with the safety and health-related regulations toward high-risk tasks, we have also enhanced risk control. We continue to improve the working environment and act in regards to safety and health facilities and measures to actively ensure employee protection.

Sometimes customer service personnel encounter irrational requests and even personal abuse from customers in the provision of our services. We established an SOP for employee response and acted at a critical level in certain circumstances. Legal assistance can be authorized to aid in the event of serious offenses and to prevent illegal practices. CHT adopted the ISO 10002 quality management system in 2011 and have a certified and flawless customer service procedure and management mechanism in place. We regularly offer pertinent training courses in customer relations, the management of emotional stress, and occupational hazard prevention. While building up professional capability, we positively avoid pressure to mental and physical health problems on customer service personnel.



Information Equality

CHT is creating a free and open information sharing environment without technological boundaries that can be shared with everyone. Such a system inherits culture, extends education, promotes industry, and upgrading art with a connection to the universe of the Internet. Digital technology can be beneficial to everyone irrespective of age, social standing, wealth, geographical location, or education.

We base our approach on the characteristics of the ICT industry and the spirit of "where the value is where the responsibility lies" in our work with the communities in Taiwan. Our main objective is to minimize the digital divide and create digital opportunities, CHT watches the trends of this digital divide and offer solutions that facilitate social innovation and digital inclusion. We spare no effort in corporate volunteer, participate in community services, and proactively assist communities in the creation of digital opportunities.

2021 Value Chain Human Rights Evaluation Results

Subjects of the Value Chain	Location / Amount	Evaluation Mechanism	Evaluation Percentage	Percentage at Risk	Description / Boosting Mechanism	
 CHT owned institutes at 1 to 2 lower levels	28	<ul style="list-style-type: none"> Labor-management meeting Collective agreement Workers' Union meeting Annual human rights event inspection 	100%	1.3%	<ul style="list-style-type: none"> Certain institutions violated the social regulations and OHS, which were corrected immediately in line with regulations. Labor rights were protected via labor unions and signing of Collective Bargaining Agreement. There was no risk involving labor environment in 2021. 	
 Subsidiaries	19	<ul style="list-style-type: none"> Annual ESG implementation inspection 	100%			
 Re-investment Companies	15	<ul style="list-style-type: none"> Annual ESG implementation inspection 	100%	1.3%	Some institutes were in violation of regulations. Suggestions for improvement have been provided and will be tracked and managed continuously.	
 Upstream and Downstream Suppliers	Tier 1	2,020	<ul style="list-style-type: none"> ESG survey inventory ESG second party audit Occupational health and safety audit 	100%	0%	<ul style="list-style-type: none"> Some suppliers had violated the labor laws and regulations. Continue to follow-up of suppliers with identified risk to see if improvements have been made through Supplier Conference and other channels.
	Critical Tier 1	192				
	Critical Tier 2	27				
 The Public	All consumers		<ul style="list-style-type: none"> Diverse compliant channels (including discrimination and harassment) Satisfaction survey Personal information and privacy protection inspection Minority group service mechanism 	100%	0%	<ul style="list-style-type: none"> No discrimination or harassment, or any invasion of CHT customer privacy or misuse of personal information in 2021. Continue to promote the 5I SDGs Initiative to ensure information equality among the groups.

Safeguarding Consumer Rights and Interests
Digital Transformation of Diverse Virtual and Physical Channel Services

Chunghwa Telecom values consumers opinion. In addition to conveying technical features of the products and services we offer; we look at the matter from the point of view of the consumer. We provide consumers with the most comprehensive, high quality and efficient services putting a wide and diverse range of service channels at their disposal. By the end of 2021, we had 447 direct physical channel service stores, and 244 franchised stores, a total of 691 service outlets that provide convenient services for all consumers in cities, or even in remote areas in Taiwan.

Ethical Marketing and Information Transparency and Friendliness

We provide a handbook about products and services for consumers that details product characteristics and applications, consider the negative aspect of overuse, and has friendly reminders provided while marketing. In addition, Chunghwa Telecom has set up the "Channel Sale Items Management Guideline" and "Channel Sales Items Management Implementation Procedures" to make the display of sales items and operation management consistent throughout all the service and business locations. This ensures a positive service environment for consumers. These are vital for maintaining a superior and professional image as well as the service quality at Chunghwa Telecom. No violations of health and safety and product labeling was reported in 2021.

Green Services with Environmental Protection and Innovation Combined

In 2018, telecom combinative stores were established in Zhongli, Miaoli and Hsinchu, including cafe, 3C and an experimental display. The green stores capabilities were also developed and energy-saving household appliances such as electric scooter, TV, refrigerators, and air purifiers, promoting green business development and offering customers the onestop shopping and whole-new store service experience.


Customer service Kiosks

These serve as the "Database" for business and engineering-related information. When new information is received, it will be verified according to an SOP. Afterward, an FAQ will be further drafted and uploaded to the customer information station for use by the Chunghwa Telecom customer service personnel (at service outlets and call centers) and the Internet counter.

Consumer Hotline

Provides complete information on the features of products and services, and related special offers.

Refined Customer Service

Chunghwa Telecom provides services which are refined, thoughtful and professional to build warm atmosphere around customer relations. We use big data analysis to learn the true needs of customers so that we can offer thoughtful and customized services and products.

To maintain a decent and stable service quality, Chunghwa Telecom customer service hotline has been certified to various international standards over the years, including ISO 10002, BS 10012, and ISO 27001. Dedicated to the "customer-centric" experience optimization effort, it employed big data analysis to probe into key elements of customers' concern and truly listened to customer needs for an ongoing process optimization and system functionality improvement. In recent years, in response to customers' needs for digital services, it bettered itself in the development of smart customer service. With the innovative collaborative model of humans and robot combined, it gave birth service that are more sophisticated, thoughtful, professional, and convenient, which not only elevated the efficiency of customer service operation but also fostered optimized experiences and values for customers.



Best Intelligent System Application Enterprise Award

Promotion of Innovative Outbound Call Bot for Contract Renewal

As a leader of the telecom service sector, Chunghwa Telecom has been actively developing the smart customer service recently. The text-based customer service chatbot service and the IVR voice navigation and verification have been introduced successively since 2018. In 2021, the "outbound call bot" service was successfully launched. Through the active, automated, and interactive model, it ensures that customers with their contract to be expired are informed of their rights. After the outbound call bot get a call through, the call will be directed to customer service personnel to conclude the contract renewal. As a result, it effectively cuts the time for manual inquiry, calling out, and waiting for customer response. With speed, efficiency, and accuracy combined, it significantly elevates the customer experience and service efficiency.



Award of Best Network Services Enterprise

Advantages of Digital Contact Smart Service Demonstrated

We have been committed to the customer-centric transformation recently. To offer more diversified, convenient customer service channels to our customers, the digital contact smart services (e.g. App, web, chat, etc.) are actively promoted, so that customers may experience swift and smooth network services via the digital tools. The unique human-machine collaborative model can also refer customers to human customer service in real time for complicated issues. Hence, we demonstrate fully the advantages of all-round services online and offline to meet customer needs in a timely manner.



Customer-centric

CHT promotes the "customer-centric" transformative strategies. Through the perspectives of customers, the services online and offline are integrated to carry out multiple customer experience optimization projects:

1. In response to the ever-rising customer App usage, the "CHT App (Customer Service) upgrade" project was initiated to offer diversified, digitalized service channels. In 2021, the online customer service was added to the App's frontpage in April, with customers introduced raised by 9 folds; the recurring payment promotion came online in July with the application amount raised by 2.4 times, cutting the paperwork for application and posting for automatic payment via money transfer; the optimized fixed-line/broadband obstacle reporting service came online in September, with a 1.6 times of growth in number of report accepted.
2. To realize a smart governance and accelerate the digital transformation, the "omni-business online customer service," with AI and human text-based services combined, offers online customer services with speed, accuracy, and warmth. In addition to the provision of 24/7 online services for all businesses, customers can also engage online conversation with the bots and humans via various channels (App, web, etc.). The amount of service offered rose by 3.4 times in 2021.
3. To care for cellphone users without Internet-access, the SMS-based customer service is available for the customers to send "800" to "800" via the free SMS service. With no installation or login required, the customers can access 19 common services. 565,000 customers accessed the service in 2021.
4. Intentions of customer calls are analyzed. Through the mechanism of "business opportunity forwarded by customer service to stores," customer interests are intrigued online and directed for business conclusion offline. 56,000 business opportunities were forwarded in 2021, among which 25,000 were concluded. The customer loyalty and stickiness were improved effectively as a result.

Chunghwa Telecom Customer Service Mechanism Overview

Category	Description																
<p>Customer Service Location / Scale</p>	<p>The Company has 15 customer service centers, and the number of customer service personnel averages 2,300.</p>																
<p>Multi-Channel Customer Services</p>	<ul style="list-style-type: none"> • Webchat • Social media, "Chunghwa Telecom Dr. Q Fan Page" • Web customer service center • Mobile customer service center • Mobile App • SMS 																
<p>Training Result</p>	<p>To emphasize the "customer-first" service philosophy and offer optimal customer service experience, The "Seminar of Using Neuro-linguistic Programing (NLP) Techniques in Communication to Elevate Services" was organized for 3 sessions in the northern, central, and southern Taiwan in the early April 2021 to train 68 participants. After the seminar, the seed lecturers were arranged to conduct promotion sessions for all customer service personnel to inspire their service passion as well as improve their service philosophy and communication techniques.</p> <p>CHT holds a very high standard for customer representatives. Besides the basic requirement of tone and manners of speech, we place even more emphasis on professional knowledge and competence. In 2021 alone, 17,917 employees received 54,441 hours of training combined.</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Total Participants</th> <th>Total Training Hours</th> <th>Average Training Hours</th> </tr> </thead> <tbody> <tr> <td>2021</td> <td>17,917</td> <td>54,441</td> <td>3.0</td> </tr> <tr> <td>2020</td> <td>9,853</td> <td>44,368</td> <td>4.5</td> </tr> <tr> <td>2019</td> <td>5,885</td> <td>127,511</td> <td>21.7</td> </tr> </tbody> </table>	Year	Total Participants	Total Training Hours	Average Training Hours	2021	17,917	54,441	3.0	2020	9,853	44,368	4.5	2019	5,885	127,511	21.7
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Due to the pandemic impact since 2020, TTI reduced offline education programs and adopted online programs with shorter hour per session instead. Hence, the trained participants (person-times) increased while the total training hours decreased.



Pandemic Coping Measures and Mechanisms

1. Coping Measures for the Worsened Pandemic in May to August

The pandemic had escalated since May 2021. To ensure the service continuity of customer service hotline, various measures for triage and compartmentalization were initiated, including compartmentalized offsite working and work from home to protect the physical and mental health of our employees and reduce the risks of cluster infection.

In addition to the introduction of the real-time interactive voice response (IVR) service for epidemic prevention and voice-guided bot verification into the customer service hotline to shorten the handling time for voice services, the customer service channels were enhanced as well. Aside from the conventional human customer service for inbound calls, the online customer service chatbot was also deployed. With the automated service, enhanced text-based chatbot recognition rate, and increased auto-service rate, we advance our customer services in the facets of diversified customer referral, human, system, and quality.



2. Response Plans for Taiwan CDC Toll-free Hotline 1922 and SMS Real Name Registration System

In response to the escalation of the pandemic domestically, the level 3 alert was in force nationwide. There came the issues with the government-funded vaccination and the COVID-19 Vaccination Reservation system as well as the spiked calls to the Taiwan CDC Toll-free Hotline 1922. To support the government in the epidemic prevention efforts and relieve the burden to the Taiwan CDC Toll-free Hotline 1922, improvements such as the automatic SMS message service during busy line and online SMS message service, collection of FAQs for timely business promotion, and streamlined single line call log were introduced via IVR service to reduce the waiting time for callers. During the darkest hours from May to August, we actively trained the full-time CHT employees and HongHwa store staff for further support, provided incentive measures like capacity improvement contest, and replenished the fixed-term contract workers to significantly improve our capacity.

Concerning the changing landscape of COVID-19, the daily situation report of the Toll-free Hotline 1922 was initiated, and emergency response meetings were organized from time to time, to ensure improvement of the Taiwan CDC Toll-free Hotline 1922 in quantity and quality alike, so that we could effectively resolve issues for the citizens as a force to ongoingly stabilize situations in Taiwan.

Commendation for Best Customer Service Personnel

To inspire passion and professionalism among customer service officers, we reward customer service personnel who receive praise from customers, and accept these credits as part of their performance appraisal as an excellent service quality.

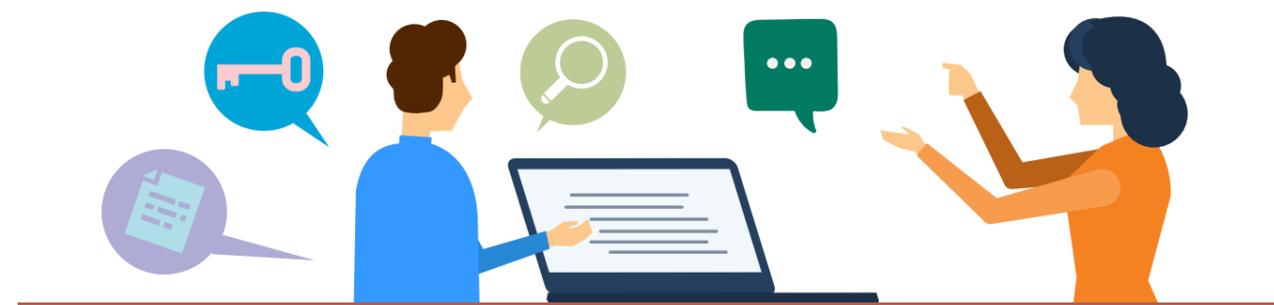


KPIs for Customer Service Hotline

In 2011, Chunghwa Telecom became the telecom carrier to have all its centers certified for the ISO 10002:2004 Customer Complaint Management System. The Company views customer complaints as opportunities to make ongoing improvements. The resolution of customer complaints and dissatisfaction is rule-based and they must be settled within 3 working days. This approach ensures the continuous improvement of service quality. In addition to the customer service hotline, consumers may also use the corporate website or Representative Line authorized by the President (02) 2344-6789 to raise complaints directly to the assistance of the senior executive. The satisfaction survey in 2021 rendered 4.75 points as a result, exceeding the target of 4.64 points. Also, the customer satisfaction target value is raised to 4.7 points for 2022. It is planned to invite customers through SMS messages with a short URL for the survey in 2022, along with the smart survey project introduced to optimize the customer experience with our satisfaction survey.

KPI	2019	2020	2021
Customer Service Response within 20 Seconds	72.6%	69.0%	57.2%
Service Satisfaction (5-point scale)	4.74	4.75	4.75

- Owing to the escalation of the pandemic domestically since May 11, 2021, along with issues like the service of the Vaccination Reservation system, vaccination batches, and target population for vaccination, we diverted our customer service hotline workforce to support the Taiwan CDC Toll-free Hotline 1922 service. The 20-sec answer rate was low as a result, but the overall customer service hotline answer rate was still up to 84%.
- Adjustment to the data of 2019-2020: Performance calculation in the duration is optimized, the data is backtracked and amended as well.



Customer Satisfaction Survey

We conduct a broad variety of satisfaction surveys to identify the issues of most concern to consumers and their expectations. We use these findings to guide future improvements. After each survey, the opinions and suggestions are conveyed promptly to product or business personnel (including Risk Management and the Public Relations Departments) using the consumer feedback system. Furthermore, consumers opinions are brought to the attention of the senior manager of the product and customer service departments for discussion at monthly meetings to ensure that the consumers expectations receive proper consideration.

Regarding the IPA (Importance-Performance Analysis) items belonging to the fourth quadrant (high importance and low performance) after a review of the results of the annual satisfaction survey, we will request that the relevant functional units conduct further analysis and propose measures for concrete improvement every year. There will also be a follow-up in the next quarter to keep track of the progress of any corrective action found necessary.

Designate an external market survey company to conduct consumer satisfaction survey

Survey Result (10-point scale)

Large Enterprise	9.04
Small and Medium Enterprise	8.75
General Customer	7.84



Correction & Prevention E-Platform

To maintain our quality customer services, the PDCA cycle of customer service consultation is implemented for the few customer service personnel with unsatisfied customers in terms of service attitude or professional knowledge (satisfaction of 1-2 points). The system will automatically port the data of inbound customer calls to the "correction & prevention e-platform" first. Then, through mechanisms of work assignment by the system and audio file listening by staff, consultation and correction measures are carried out for the personnel with unsatisfied service level.

1. Send the quality audit ticket: Upon system notification received, the customer service quality inspector will issue "self-correction ticket" or "in-person consultation ticket" in line with the severity of the situation.
2. Track results of consultation and correction: Upon receiving the in-person consultation ticket or self-correction ticket, the individual is assisted to improve themselves in a specified period through the coaching consultation, followed by the random check of 3-6 records (or audio files) of similar types of customer service to verify the personnel's improvement in order to close the case.
3. Plan for outbound call service: To create an optimal customer service, a comprehensive quality management project is implemented, with a plan to execute the outbound call service for unsatisfied customers in Q2 of 2022 to gain insight of customer needs and facilitate a quality customer relationship.

Rigorous Privacy Protection Management Mechanism

"Customer privacy protection" is emphasized at Chunghwa Telecom in compliance with "Personal Data Protection Act" and "Regulations Governing Non-governmental Personal Data Security Protection Designated by the National Communications Commission." Privacy Policy has been stipulated, along with rigorous privacy security management and protection measures. Also, a data governance system has been constructed. Data standards and classification are set. Data access management and data owner verification mechanisms are exercised to ensure a proper management and protection of data access and sharing as well as the availability, integrity, and confidentiality of data. The scope of application thereof encompasses all the business groups, branch offices, subsidiaries, and suppliers of Chunghwa Telecom.

Prior to any business promotion, risk assessment will be conducted to examine and ensure data access in compliance with the regulatory requirements and to check if data protection mechanisms are in place to avoid risks in data processing. To take it further with regard to "customer privacy protection," we proactively introduced ISO 27701 system to assure the effectiveness and legal compliance in the lifecycle of data.

Regarding the collection, processing, use, and protection of personal information and privacy involved in the operation, aside from compliance with government's relevant laws and regulations, personal information is used within the defined scope of regulatory requirements and will not be disclosed to a third-party via exchange, lease or otherwise at will. Also, relevant actions are implemented in accordance with the "Privacy Policy" stipulated by the Company so as to uphold the security of customer information and privacy.

In response to the potential innovation, advantage, and impacts arising from the development of AI technology, the 8 Guidelines in the "AI Technology R&D Guidelines" promulgated by the Ministry of Technology are also adopted as a reference for the Company in research, innovation, and development to ensure proper management measures in place in the use of AI technology, reducing the potential concerns from the public on AI technology as well as the risks thereof in order to develop under the premise of customer privacy protection. As such, we shall live up to the core values of "human-oriented," "sustainable development," and "diversity inclusion."



Data governance organizations and responsibilities

We have established the data governance organizations with structures and responsibilities as follows:

- Data Governance Committee (Level-1 Organization):
The final decision-making body for issues of data governance with President as the Convener, responsible for the data governance development at Chunghwa Telecom
- Data Governance Center of Excellence (Level-2 Organization):
Stipulation and promotion of corporate data governance regulations and systems; tracking of implementation results
- Data Governance Team (Level-3 Organization):
Data governance implementer to ensure implementation of the data governance system in terms of data protection, data compliance, data quality, data access, data tools, and data maintenance throughout Chunghwa Telecom



Specific Data Management Mechanisms

In alignment with the major areas of Data Management Knowledge (DMBOK) of Data Management Association (DAMA), Chunghwa Telecom constructed its data governance structure of three-level organizations with respective responsibilities. Also, the data use system throughout the Company has been constructed in terms of data quality, data protection, data access/sharing, data tools, data compliance, and data maintenance, so that data can be regulated, authorized, tracked, and protected. As such, it warrants an effective data governance at the Company and the subordinate entities to achieve consistency, availability, security, and compliance in data asset management that meets international standards.



Privacy Protection Risk Management

· Group-wide risk management

In terms of risk management, risk and impact assessment are conducted in line with the "Information Security and Personal Information Risk Management Policy of Chunghwa Telecom Co., Ltd." to identify risks to the corporate operation and businesses arising from internal/external threats (including regulatory and international standards changes, requirements by competent authorities, data threat tendency, audit results, etc.) and inventory critical risk topics of the year, so as to analyze the impact levels and likelihood of risks, assess risk handling priorities, formulate privacy risk handling targets and measures, and regularly review and evaluate achievement of indicators.

Our performance of cybersecurity and privacy risk management has been incorporated into the monthly tracking by the Risk Management Committee for management. Any material risk issue will be submitted to the Audit Committee or directly reported to the Board of Directors.

· Performance measurement and disciplinary

Our Privacy Policy upholds "zero tolerance" as the overarching principle. Performance in cybersecurity and personal information protection is included in the appraisal of all employees, which has come into force upon approval of the President. The results of execution thereof are reviewed regularly, whereas those who fail the targets are required to take corrective actions. Any loss due to negligence or any conduct of improper inquiry, acquisition, use, or deliberate leak of customer's personal data is subject to demerit or termination of labor contract at worst.

· External audit

We ceaselessly strengthen the privacy protection procedures, ensure implementation of privacy protection security measures throughout the operation processes, organize trainings pertaining to privacy protection, elevate the overall privacy protection competency of the Company, and examine and evaluate effectiveness in privacy protection measures via regular tests and exercises. Externally, our Privacy Policy has obtained the third-party conformity verification. Also, we conduct internal/external audits and certifications each year (e.g. ISO 27001 / ISO 27011 / ISO 27017 / ISO 27018 / BS 10012 / CSA STAR Certification with ongoing validity) so as to offer consumers a better cybersecurity and privacy data protection.



Exercise of customer rights

To protect the rights of customers, a variety of channels (including websites, Apps, stores, and customer hotline) are available at Chunghwa Telecom for customers to access and learn about the types of personal information collected and the methods for collection, processing, use, or disclosure of such to a third party as well as the rights customers may exercise. The rights available for customers to exercise are as follows:

Opt-out	Opt-in	Access to data held by the Company	Request to edit data	Request for deletion
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Customer privacy rights protection

· Types and Content of Data Collected

When customers access services of Chunghwa Telecom, we collect their personal/private data, including account, browsed webpages or multimedia contents/mobile Apps, out of the regulatory requirement for identity verification or the needs for service provision.

· Data Retention Period

Upon termination of contractual relationship between customers and us, we will maintain and use customer's personal information within the scope and duration required or permitted by the laws and regulations and retain (non-personal) data generated therefrom in a form that does not identify the customer.

· Policy for Disclosure to Third Parties

Personal data and privacy will not be disclosed to a third party by means of exchange, lease, or otherwise at will, unless consented by the customers or specified otherwise by laws and regulations.

· Data Use and Protection

To elevate customer experiences and maintain customer relationship, we use customers' data for analyses to provide optimized, customized services and discount information perfect for our customers, whereas customers may request stop to such use at any given time.

We have formulated personal data protection policy and relevant regulations regarding the use of personal data of customers, which apply to all employees and contractors, including contractors, personnel of subsidiaries stationed at the Company for service, suppliers, and partners. Also, monitoring is in place 100% with rigorous protection measures to prevent any unauthorized access, disclosure, use, or tampering of personal data in order to protect the privacy, data security, and rights of customers. The percentage of secondary use of customer data at Chunghwa Telecom in 2021 is 85.18%.



Requests for customer information received from government or law enforcement agencies

We are liable to protect customer's secrecy of correspondence and privacy from illegal infringement in accordance with the laws. Only when government agency or law enforcement agency presents Chunghwa Telecom a letter in line with the laws to request access or inquire information of customers to protect public security, fight crimes, or maintain social order can we provide customer information thereto.

In compliance with the requirements, dedicated departments and rigorous review procedures for access are in place. Relevant information can only be provided in accordance with the laws upon criteria met, which will not be available otherwise.

In 2021, 659,429 requests were made by the government or law enforcement agencies for inquiries of our user information. The ratio of provision was 47.1% (310,591 requests) and that of rejection 52.9% (348,838 requests), most of which were primarily due to inconformity to the relevant laws and regulations or source data error.



Personal Data and Privacy Protection Consultation and Grievance Channels

A variety of means are available for customers to exercise their rights. In addition, customers with questions or concerns regarding personal data or privacy may send feedbacks or appeals via various channels, which will be explained by dedicated staff in a professional manner.



Personal Data and Privacy Protection Grievance Escalation Channels

Should anyone find their personal data and privacy use issues unresolved within 30 days, they are welcome to reach us via the escalation channels as follow:

Address: No. 21-3, Section 1, Xinyi Road, Zhongzheng District, Taipei City 100, Taiwan (R.O.C.)
Recipient: Chief Information Security Officer, Chunghwa Telecom Co., Ltd.
Phone: (02)2344-6789

There were 8 complaints over "alleged information breach cases" filed via the customer hotline in 2021, of which 6 was notified by the National Communications Commission (NCC) and 2 submitted via the customer service hotline (same amount of cases compared with those in 2020, accounting for 0.00027% of the customer hotline service provided of the year). All the cases were investigated and verified that there had not been any fact of personal data and privacy breach.

* For more information on the cybersecurity and personal data and privacy protection of Chunghwa Telecom, please visit our website at [ESG/Customer Care/Privacy Protection](#)

1Gbps Network Speed across All Townships 100 Mbps across All Villages

We are constantly expanding our mobile network. We have the most 4G cell towers and the highest 4G signal coverage in Taiwan. According to test results published by the government, our network speed is the fastest across all 22 administrative districts in Taiwan. Our network quality has been unanimously commended by domestic and international mobile analytics organizations, including recognitions of 5G Download Speed, 5G Upload Speed, 5G Video Experience, 5G Games Experience, and 5G Voice App Experience of the 5G Mobile Experience Awards of OpenSignal, an international authoritative organization, as well as Fastest 5G Mobile Network and Fastest Mobile Network of Speedtest Awards.

As always, customer satisfaction is our top priority. We will continue to improve our mobile network to provide customers with top-notch services. To ensure the equal sharing of information, in addition to a positive strengthening of mobile Internet quality in populous metropolitan areas, we have paid more attention to signal coverage in remote areas. We have achieved 100% total 4G coverage in all towns.

To better implement the digital rights, we proactively respond to the policy target of "2 Gbps network coverage hit 90% by 2025" in the Digital Government Program 2.0 of Taiwan (2021-2025) (DIGI+ Program) of the Executive Yuan, upgrading the fiber optic network coverage and network equipment. Hence, all people may have equal development opportunities to inspire innovative applications of digital economy, double momentum for economic growth, and complete ultra-broadband network construction in the rural areas. A total of 16 forward-looking projects, including those of 1 Gbps network service for townships, 100 Mbps network service to villages (boroughs), and submarine cables for offshore islands, were completed in 2021.

Expand Wireless Hotspots

We have also supported the government initiative for the promotion of free wireless Internet services nationally. Through a reasonable Wi-Fi rental package available, as well as a robust user authentication platform and a nationwide maintenance/monitoring system, we have helped the government deploy free Wi-Fi hotspots nationwide.

Our contributions to social events in 2021 included working with local county and city governments to provide Wi-Fi hotspots and enable Internet access at festive gatherings and international sports events. We installed 81 hotspots for New Year's Eve festivity, 3 for the Lantern Festival and about 25 for other activities. The Company participated in 17 festive occasions, built 109 hotspots in total, and spent more than NT\$0.91 million.

The Alleviation of Public Concern about Electromagnetic Waves

According to a report by the World Health Organization (WHO) and related scientific research, exposure to base stations and Wi-Fi signals does not affect human health. NCC also declared that all the powers of the electromagnetic waves from the domestic base stations are within the threshold of international standards and thus cause no harm to human body. Therefore, the Environmental Protection Administration of the Executive Yuan do not list base station as a source of environmental pollution.

For this issue, Chunghwa Telecom ensures strict compliance with the authority's safety standards when constructing telecom infrastructure. The Specific Absorption Rate (SAR) of all mobile communication products we purchased have complied with the restrictions of the National Communications Commission (NCC). Given the scarcity of suitable base station locations and the need to assure consumer rights to quality communication, we will strive to comply with regulations by taking the approved precautions at all stages of installation. There were 5 counts of penalty or administrative action involving base station with fines totaled NT\$900,000 in 2021. These violations occurred as we sought to address consumers' demand for good reception and concern towards negative health impacts from base stations.

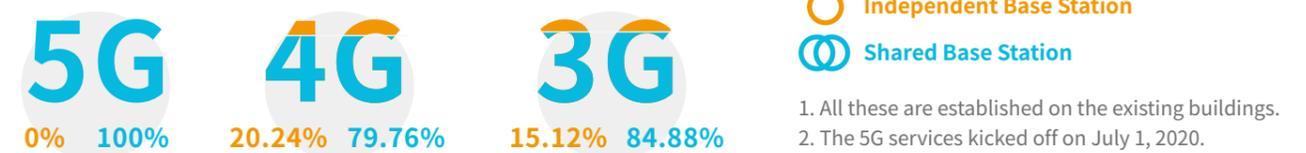
The measurement of the electromagnetic radiation in the environment conforms to the standard of the International Commission on Non-Ionizing Radiation Protection (ICNIRP), which must be lower than 0.45 μW/cm² at 900MHz and less than 0.9μW/cm² at 1,800MHz. Any resident who has concerns regarding base stations near their home can request a free complimentary measurement of the strength of the nearby electromagnetic waves by calling 0800-580010.

Advocate the Accurate Understanding of Electromagnetic Waves

Chunghwa Telecom has been working closely with the Taiwan Telecom Industry Development Association to convey to the public the correct information about electromagnetic waves, by organizing conferences and issuing promotional materials.

- The Company joined NCC and 7 county/city governments nationwide in hosting 9 seminars on the topic of electromagnetic waves and 115 free complimentary electromagnetic wave measurements have been completed to date.
- Local government bodies were issued some promotional material and pamphlets about electromagnetic radiation, which were distributed to the public during various activities to promote proper understanding.

Types of CHT Base Stations Installed



Enhanced Disaster Response and Communication Coverage

Chunghwa Telecom continues to install repeaters, backup wireless routers, and backup power supplies to increase reliable transmission capacity in remote areas. By increasing the capacity of backup batteries to more than 72 hours, the Company ensures that residents in remote locations can stay connected even when main power has been disrupted by a natural disaster

Responses Measure

We conduct annual emergency drills for a wide number of different events, from the coordination of network resources and equipment to emergency repairs. Our base stations have been deployed in a diversified manner and are covered by robust backup plans so that failure of circuitry, power or equipment at any base station will not disrupt the operation of other nearby base stations.

Occurrence of Disaster

If communication is severely disrupted in the unfortunate event of a natural disaster, we take contingency measures, that depends on the actual circumstances, to maintain communication between the disaster locations and the outside world. These can include microwave radio, satellite transmission, portable base stations, etc.

Disaster Report and Upgraded Safety

In efforts to minimize the impact of disasters by prompt messaging, the Chunghwa Telecom self-developed "Emergency Response SMS System" sent out more than 240,000 SMS alerts in 2021, and apply to Directorate General of Highways' "Traffic Conditions Alert System," and Atomic Energy Council's periodic "Nuclear Safety Drills," and the National Fire Agency's disaster prevention exercises, successfully playing its part in disaster prevention information notification.

In addition, a Public Warning System (PWS) has been established to support the national policy of emergency message dissemination about typhoons, earthquakes, thunderstorms, large-scale power outage, landslides, roadblocks, reservoir discharge or an outbreak of disease, fast and correctly to specific regions simultaneously, assisting government agencies and the general public improving their disaster prevention awareness and capabilities. As long as a mobile phone is open to the PWS function, all our customers will receive messages about disasters. The PWS issued over 7,300 times of emergency warnings across Taiwan in 2021. In May of the same year, upon the rotating power outage in force across Taiwan due to failures of Hsinta Power Plant, we issued the power outage alert in a timely manner, effectively assisting the government in policy delivery and disaster notification.



Major Service Interruptions in 2021 and Countermeasures

1 Overview of the Obstacle:

- (1) Service impacts to 7 3G base stations and 6 4G base stations in the Lanyu region
- (2) Service impacts to 54 4G base stations, 19 5G base stations, and broadband services in the Matsu region

2 Reasons for the interruption:

- (1) An unexpected power outage from Taipower on Lanyu, leading to impact to external microwave equipment due to UPS failure
- (2) Service impact arising from possible severance of certain cable wires of the 3rd Taiwan-Matsu Submarine Cable caused by the bottom trawls of fishing vessels in the Matsu region

3 Improvement measures:

- (1) Replace the batteries of poor performance in the Lanyu region with batteries of relatively better performance to maintain their functionality.
- (2) Include the Matsu region in the Submarine Cable Automatic Warning System (SAWS).

4 Implementation Status:

- (1) Bad batteries in the Lanyu region were replaced to reduce risks of equipment malfunction arising from unexpected power outage.
- (2) The cable ship was requested for rapid repairment of the submarine cable in the Matsu region.

5 Outcomes:

With the ceaseless improvement of maintenance mechanism by the network maintenance department, the average number of obstacles encountered by users has been improved from 0.0006 in 2020 to 0.00017 in 2021, while the average time for obstacle removal improved from 0.096 minutes in 2020 to 0.093 minutes in 2021.

Telecom Services and Promotions

Fraud Prevention

In 2007, Chunghwa Telecom assisted the government in establishing the 165 Anti-Fraud Consultation Hotline to support the police and authorities in the defiance against fraud.

Item	Description
Resources Committed	<ul style="list-style-type: none"> • An average of 10 customer service personnel joined the service every month to work with the Criminal Investigation Bureau in a concerted front-line duty effort from Monday to Friday. • "Disconnection Service Fraud Prevention System" offers information on some suspected telephone gimmicks used for cheating customers and a timely settlement of the problem. An average of 3.1 customer service person participated in the program each month.
Prevention of Fraud on Network / Mobile Devices	<ul style="list-style-type: none"> • A two-way, SMS-based authentication system was introduced for small payments. • Anti-fraud SMS messages were sent in compliance with the police department.
Progress Description in 2021	<ul style="list-style-type: none"> • The hotline received 237,991 calls, and 21,219 cases of fraud were referred to the authorities. • The Company assisted the Criminal Investigation Bureau, National Policy Agency in disconnecting 2,208 phone numbers, and successfully stopped 2,788 scams.

Reducing Negative Impact of the Internet

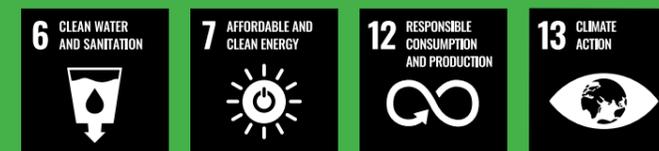
We continue to minimize negative material circulating on the Internet through diverse action plans, and endeavor to provide consumers with a healthy, trouble-free network environment.

Item	Description
Anti-Virus and Anti-Hacker	A HiNet mailbox gives customers access to a free webmail service. A simple setup, allows users to decide if questionable e-mail will be automatically deleted in the future. We continue to monitor the formulation of the "Regulations for Commercial Electronic Spam Mail", in which add the management obligations to the Internet Service Provider (ISP).
Adult Content	Provides K12 Mailbox Forced Isolation, the HiNet Adult Content Gatekeeper, and the Mobile Adult Content Security Guard, keeps children and teenagers out of harmful websites.
Usage Time Control	The HiNet Online Time Management Service and mobile phone "3G Talk without Worries" programs, giving parents effective control of the mobile phone and Internet use.
MOD Parental Lock	The Parental Lock can be set at protected or parental guidance. Settings are in effect immediately once the password has been entered. The parental lock can be used to protect children from harmful or bad content.



The Green Corporation Pioneer

The SDGs CHT contributes to in this section



SMARTI

Strategy

Facilitation of greenness in the ICT industry (Green of ICT) and overall greenness of society through ICT (Green by ICT)

Management

- Instituted the Code of Corporate Social Responsibility for Suppliers of Chunghwa Telecom Co., Ltd.
- Instituted the Chunghwa Telecom Co., Ltd. Procurement Grievance Procedures
- Chunghwa Telecom Energy Saving Policy for a Sustainable Environment stipulated
- Collect the suppliers information on climate change and carbon emission at least once a year



5G Green Enterprise

Although telecom is regarded as a low-polluting industry, Chunghwa Telecom is well aware of the environmental impacts associated with energy, resources, waste, maintenance, purchasing and other aspects of our operation. Subject to the maturity of the EV market, we plan to add 100% electrification of service vehicles and to evaluate joining the EV100 initiative.

We have devised a new set of Sustainable Environment Development Strategy and Target Plan that outlines our overall strategy and roadmap for sustainable environmental development. In addition, budgets will be provided in each year to support action plans.



Action

- Efficient energy and resource management using EARTH
- The launch of the 5G initiative in pursuit of profit, environmental sustainability, and social responsibility
- Become the first telecom service provider in Taiwan to implement:
 1. Collaboration with the Sustainable Alliance for Low-carbon Economy (SALCE) to issue the Sustainable Partnership Certificate
 2. TCFD Conformity Statement obtained
 3. BS 8001 Conformity Statement obtained
 4. Incorporation of the ISO 20400 Sustainable Procurement Standard
 5. Joined the Carbon Disclosure Project (CDP) Supply Chain
 6. ISO 14064 certified

Response

- CHT ESG Supplier Conference / Sustainable Environmental Visit, education and trainings
- Targets low-carbon industries and promotes solar power

Target

1. Procurement of **50** million kWh or more of renewable energy in 2022
2. Promises to reach the following targets in 2030:
 - **50%** cut in carbon emissions compared to 2020 levels
 - **100%** IDCs using renewable energy
 - **100 %** critical suppliers"CHT sustainability partner certified"
 - Cumulative **10** million t-CO₂e of carbon reduced by the supply chain
 - **100%** electrification of service vehicles

Indicator

- GRI** GHG Emissions **734,866.729** t-CO₂e
- SASB** **4,506** kWp of installed capacity of PV systems generated for self-consumption
- SASB** **10.106** metric tons of cellphones recycled with a reuse rate of **87.89%** via "Cellphone Recycling for a Sustainable Earth" program
- CHT** Nearly **50** suppliers receiving ESG education and trainings
- CHT** Implement the "Suppliers ESG Second Party Audit" on **20** suppliers
- CHT** **111** Taiwan Renewable Energy Certificates (T-REC) acquired

1G Green Operation

- A self-developed EARTH system for **100%** control of environmental information
- Certifications of ISO 14001, ISO 50001, and ISO 14064-1
- The sole telecom carrier that has obtained the ISO 14046 certification and BS 8001 Circular Economy verification in the industry of Taiwan
- Certification to the highest grade of TCFD Conformity Check for **2** consecutive years



2G Green Energy

- Self-constructed photovoltaic systems reached a total capacity of **4,506** kWp
- Acquired **111** Taiwan Renewable Energy Certificates

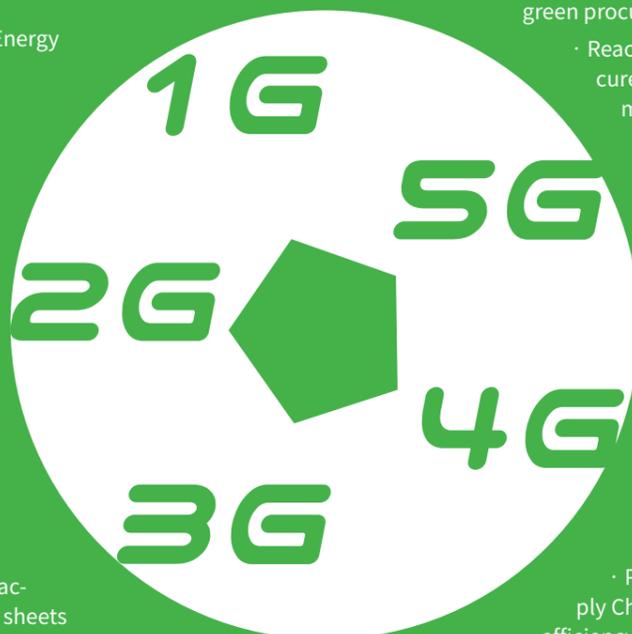
5G Green Procurement

- Reached a total of NT\$**14,994** million in green procurement in 2021
- Reached **22.37%** of total procurement as green procurement yearly

3G

Green Stores

- Transformed **691** service centers into Green Stores
- Syntrend Store in Taipei as the sole net-zero carbon store in the industry of Taiwan that obtained ISO 14067, EPA's Service Carbon Label, and PAS 2060 carbon neutrality certification
- Promoted paperless services and accumulated a saving of **590** million sheets of paper per year



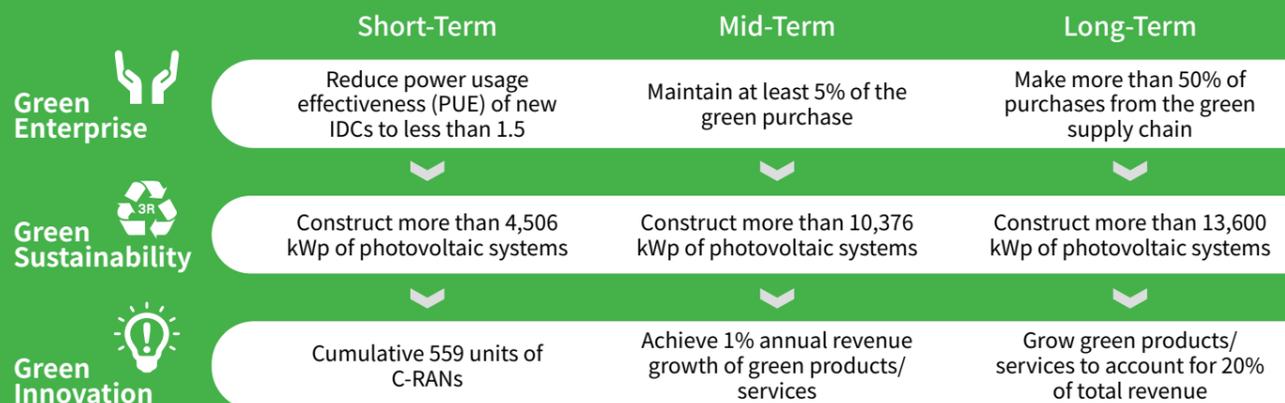
4G

Green Supply Chain

- Became the first telecom carrier to promote supply chain sustainability management
- Formally incorporated the ISO 20400 Sustainable Procurement Standard
- Participated in the CDP Supply Chain Project to expand the efficiency of carbon management

The certification of ISO 14001 is effective till 2023/12/24, while that of ISO 50001 is till 2022/12/17.

To fulfill our green commitment and embrace the world's green challenge, Chunghwa Telecom has adopted a "Green Enterprise, Sustainability and Innovation Strategy" with the introduction of 5G (Green): Green Operation, Green Energy, Green Stores, Green Supply Chain, and Green Procurement, aiming to address financial success, sustainability and social responsibility.



Taiwan Alliance for Net Zero Emission and SBT

We joined the Taiwan Alliance for Net Zero Emission in 2021, proposing the target of net-zero emissions by 2030/2050. The commitment to the science-based target (SBT) was announced publicly in August of the same year. We planned to submit the SBT for review in 2 years, to achieve a 50% emission reduction by 2030 compared to 2020 levels. The emission reduction pathway is as follows:

Reduction Target

Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Reduction Target	1.7%	3.4%	5.3%	7.5%	10%	13.1%	17.6%	26%	37%	50%

To meet the emission reduction requirements of SBT for the ICT sector, we implement emission reduction plans for "data centers, mobile networks and fixed-line networks, and office buildings" respectively. The emission reduction plans are to be planned with reference to the methodologies recommended by international organizations and our government and in line with the situation at present, in order to propose emission reduction plans of the years that follow as the supporting information for the SBT submitted.

By saving electricity and replacing high-energy equipment, Scope 1 and 2 carbon emissions in 2021 (734,900 metric tons of CO₂e) were reduced by 7.02% comparing to the base year levels in 2020.

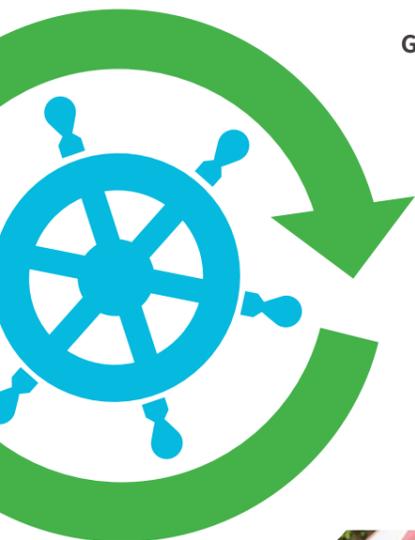
1G Green Operations

Chunghwa Telecom has set a goal to become a sustainable Green enterprise, and has made environmental issues an incorporated part of business operation and management. We hope to play a more proactive role in issues such as energy and climate change. By improving energy efficiency and exploring eco-friendly products and services, we are confident of our potential to inspire a new generation of low-carbon industries.

Environment ARTificer THEurgy (EARTH)

We developed the Environment ARTificer THEurgy (EARTH) system in 2008 to manage resources and protect the environment more efficiently as well as to reduce spending on energy consumption. EARTH system features include:

- Energy Saving and Innovation:** Energy savings and innovation initiatives have been uploaded and implemented in all departments to encourage employees to learn from each other.
- Performance Evaluation:** Performance evaluation is conducted systematically to encourage employees to contribute to environmental sustainability actions.
- Power Management:** Request centralized payment of electricity bill; there are more than **65,833** electricity accounts and **3,387,811** units of electricity payment data under management.
- Water Management:** Request centralized payment of water bill; there are more than **1,351** water accounts and **134,941** units of water payment data under management.
- Carbon Emission Management:** This provides a carbon verification form and the results were greatly enhanced as **300** man-day operations.
- Fuel Management:** Fuel use data for hybrid and ordinary vehicles were analyzed to improve energy efficiency and reduce carbon emission.
- Corporate Tree Planting:** Document type, number, management department and location of trees. There are over **251** varieties of tree and **67,490** tree data saved in the EARTH database.
- Recycling Management:** Document type, volume of recycled material and the recycling management department. We have recorded **22** types of recycling and there have been **18,639,579** entries made.



Green Environmental Hostels

Chunghwa Telecom Hostels provide accommodation for employee business or leisure travel. In response to environmental protection and personal hygiene, the hostels do not provide disposable, or consumable items or towels. They also take energy-saving measures such as solar water heating, air conditioning using heat pumps and LED lighting. 19 hostels had been certified as Environmentally Friendly Accommodation by 2021.

Ecotourism

Chunghwa Telecom hopes to provide eco-tours that are both educational and entertaining for our employees, so that they understand concepts of extreme weather, responsible tourism, respect for nature and the rights of local residents. We hold regular company eco-tours with the hopes of incorporating environmental education into traveling and daily life. We held 121 tours in 2021, costing a total of NT\$11,156 thousand with 20,190 participants.



Environmental Management Expenses

	2019	2020	2021
Environmental management expense (NT\$ thousand)	328,558	329,126	330,550
Accounted percentage of turnover (%)	0.16	0.16	0.16

Energy-saving/Emission-reducing Actions in 2021

Project	Outcomes
C-RAN architecture BBU integration	7,551 integrations executed, saving approximately 700,000 kWh of energy
Phase-out of 2G gateway switch	2 projects executed, saving approximately 270,000 kWh of energy
3G-F2 cell shutdown	Shutdown executed for 16,736 cells in total, saving approximately 1.75 million kWh of energy (cumulative data since 2020)
Sleep Mode for 4G service	Sleep Mode engaged for 993 cells, on the basis of no impact to customer communications, saving approximately 80,000 kWh of energy
Externalization of base station RRU with the use of natural ventilation or exhaust fans	283 projects executed, saving approximately 650,000 kWh of energy

2G Green Energy

In response to the climate change, Taiwan has planned to raise the ratio of renewable energy from 6% in 2017 to 20% by 2025 so as to reduce CO₂ emissions. Chunghwa Telecom has been positively supporting the government policy and applying its extensive ICT background knowledge in the construction of solar power stations. By the end of 2021, the Company had 51 solar power stations around Taiwan with a total capacity of 4,506 kWp.

Power Consumption Analysis

Unit: 10,000 kWh

Year	Total Electricity Consumption (A)	General Consumption (B)	Business Consumption - Meter Rate Lighting Service (C)	Business Consumption - Flat Rate Lighting Service (D)	Consumption of Meter Rate Lighting without Customer Number (E)	Consumption of Flat Rate Lighting without Customer Number (F)
2007	135,180	9,420	125,151	609	-	-
2019	135,066	7,367	121,468	6,231	-	-
2020	150,909	7,469	121,999	5,883	15,559	-
2021	142,825	6,871	126,848	8,163	374	569

- B : office buildings and employee dormitories
- C : base stations, depot, and public telephone, which are not CHT-owned property
- D : base stations, depot, and public telephone, which are not CHT-owned property
- E: Consumption of Meter Rate Lighting without Customer Number
- F: Consumption of Flat Rate Lighting without Customer Number
- A=B+C+D+E+F; the general consumption comes from CHT office buildings; the business consumption includes the Flat Rate and Meter Rate Lighting.
- The Flat Rate is calculated based on the electricity fee. The electricity fee is converted into kWh based on the average electricity tariff per kWh, NT\$2.6253/kWh, from the "2021 Average Electricity Tariff per kWh submitted to the Electricity Tariff Review Committee" announced by Taipower.
- This table presents the power consumption with customer numbers and the fluctuated power consumption of equipment without customer number, which have been included in the GHG inventory data.

Energy Savings for Data Centers

Chunghwa Telecom places great emphasis on the energy efficiency of our data centers, and is currently implementing energy conservation measures for telecom facility centers (including IDCs). The efficient application of our proprietary iEN smart energy management system and Power Operation Supervisory System (POSS) for IDCs are our scientific approach to reducing energy, carbon emission and protection of the environment through dynamic energy management via the Internet.

Electricity Consumption of IDCs

Year	2019	2020	2021
Unit: 10,000 kWh	16,600	16,576	16,194

Renewable Energy Usage in Banqiao IDC

Year	Unit	2019	2020	2021
Solar power generation (A)	10,000 kWh	10	10	11
Total power consumption (B)	10,000 kWh	2,447	3,445	4,270



* The Most Eco-friendly Data Center in the Greater China – Banqiao IDC

The Banqiao IDC of Chunghwa Telecom is the first world-class data center in Taiwan that is certified as TIA-942 Rated 3 and Rated 4. Meanwhile, it acquired certifications and labels at home and abroad successively, including ISO 27001, PCI DSS, and ISO 14046. With the most rigorous standards and regulations ranging from architecture to electricity, machinery, telecommunication, and information security of IDC in place, we ensure a sustainable operation of the data center.

To effectively reduce the risks in IDC maintenance and raise the confidence of customers, it successfully obtained Uptime Institute's Management and Operations (M&O) Stamp of Approval in 2020, which made it the first professional IDC in Taiwan that secured the M&O certification. It also acquired the SOC certification in the same year, signaling that we have lived up to the international standards in the sustainable data center maintenance and management.

Water Resource Management

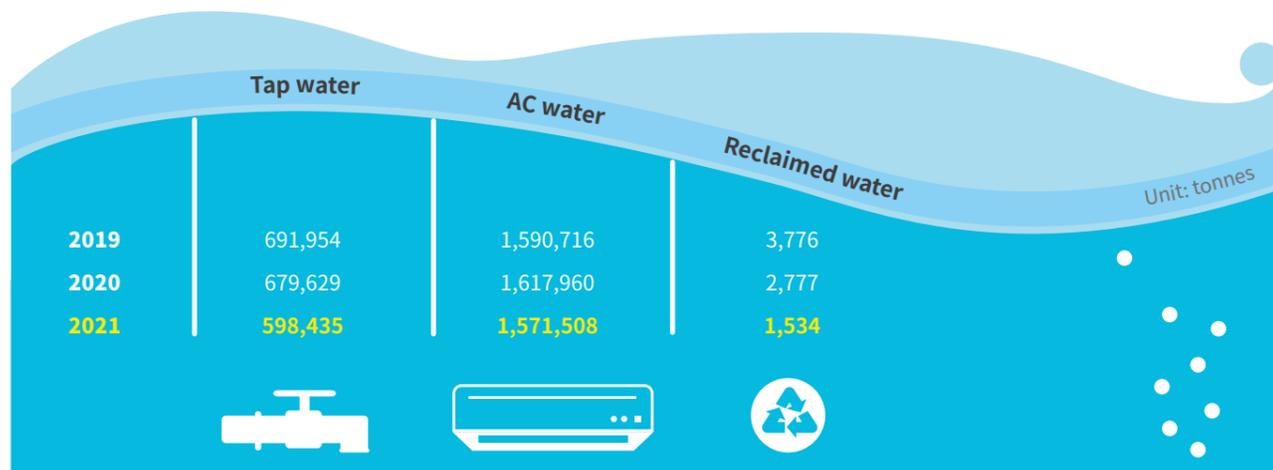
Water usage at Chunghwa Telecom is mostly domestic. Apart from bathroom use, air conditioner cooling accounts for another major water use. Given the ongoing increase in business activities and manpower, there is limited room for water reduction besides the recovery of rainwater and cooling water.

We benchmarked the 2012 water usage as the standard, and now control the annual growth of water usage to no more than 2%. In addition to a new water leakage detection feature in products, we have also included Company water consumption in the EARTH system. Centralized water bill payment is done through the EARTH water bill management function to reduce the printing of water bills. Managers can use the system to search, generate trend charts and report forms, and provide exception reports to avoid mistakes in billing and meter reading. Managers can also review the situation of water usage according to trend charts and reports, reduce expenses in water, and improve the efficiency of management.

The management and analysis information interface can be used to promote water conservation measures and set concrete management goals. We also promote water-saving measures to increase efficiency in water use:

- Install sink faucet sprayers to reduce waste
- Install dual flush toilets to reduce waste
- Use collected rainwater for watering office plants
- Encourage the installation of water reclamation equipment in new buildings, so that physically separated and treated sewage water can be reused for non-potable purposes after it has reached a certain quality standard

To enhance the effectiveness of water recycling and reuse, we have set up raft foundation water collection systems underground to collect clean rainwater from rooftops and the ground surface. We have also initiated the recycling of cooled and condensed water from office air-conditioners and promoted a recycling and reuse plan for rainwater, bathwater and air conditioner water. The recycled water is reused for watering plants and cleaning sidewalks, being utilized to its fullest extent.



* The sole telecom operator in Taiwan that passed water footprint certification

We tie eco-friendliness/green energy with network services tightly. Furthermore, we endeavor to engage "green communication" with consumers for them to accurately comprehend the eco-friendliness and low-carbon feature of products and services., in line with our corporate philosophy "Always Ahead." To accurately capture the water resource risks and in response to the UN SDG 6 3G Clean Water and Sanitation, we chose the most representative Rated 4 IDC of the Greater China region – Banqiao IDC and Cloud Data Center of Chunghwa Telecom for ISO 14046 certification on water footprint inventory and certification. As a result, it passed the verification by the SGS-Taiwan and obtained the assurance statement, making Chunghwa Telecom the sole telecom operator in Taiwan that passed water footprint certification. The benefits achieved are as follows:

- **Water resource management strategy established:** establishment of the SOP for organizations water footprint helps in the attainment of water resource management targets.
- **Enterprise water usage management enhanced:** the water usage distribution in the enterprise is captured effectively via water footprint inventory in order to create a complete water resource management system and stipulate proper measures to achieve the target of water conservation.

Waste Management

Chunghwa Telecom understands the importance of resources reduction, recycling and reuse and has combined related reduction plans into the EARTH system. This is used to manage the use of resources and control energy efficiency, as well as to conduct systematic management of recyclables and waste treatment. We contracted a professional waste treatment company to transport our daily waste to landfills or incinerators for disposal. Recyclable waste is handled by a contracted cleaning company that is responsible for classification, treatment and proper disposal.

Item	2019	2020	2021
Total waste generated (general waste + industrial waste)	6,707.3101	7,344.8563	8,869.9306
Waste recycled/reused	3,454.0053	3,846.6950	5,455.5190
Waste landfilled	0	0	0
Waste incinerated with energy recovery	29.77	26.15	40.57
Incinerated without energy recovery	3,179.2948	3,458.0913	3,328.9616
Waste otherwise disposed *	44.24	13.92	44.88
Waste with unknown disposal method	0	0	0
Data Coverage (%)	100	100	100

Unit: tonnes

Batteries containing cadmium are TCLP waste that requires processes in line with the EPA Taiwan regulations, which is to be processed overseas since there is no qualified service provider domestically.

Industrial Waste

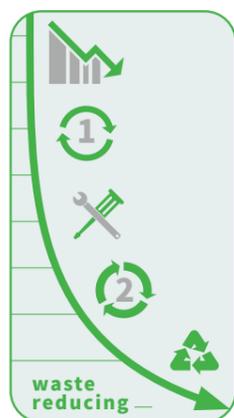
Scrapped lead-acid batteries are recyclable industrial waste regulated by the EPA. Business organizations are responsible for the reduction of pollution and simple waste disposal. All recycling and disposal operations are outsourced by joint contract based on the public auction. The contractor must be a qualified service provider listed on the website of the Recycling Fund Management Board of the EPA to ensure legitimate management and disposal.

Scrapped lead-acid batteries from each business unit are auctioned on site, and the Announcement and Delivery Slip for Removal and Disposal of Waste Lead-Acid Batteries is retained for reference. A total of 35,871 leadacid batteries with a total weight of 1,908,465 kg were scrapped and sold for NT\$31,966,389 in 2021. In fulfilling our responsibility for environmental protection, we also increased Company revenue. The public and private waste clearance and disposal companies recognized by environmental institutions are designated to handle the treatment of other industrial waste such as cement poles, fiber optic cables, woods, and batteries containing cadmium.

Category	Unit	Total amount		
		2019	2020	2021
Cement poles	Metric ton	695	787	803
Fiber optic cables		236	237	600
Woods		30	26	41
Batteries containing cadmium		44	14	45
Disposal Fee	NT\$ thousand	9,218	9,555	20,642

BS 8001 Circular Economy

In response to the UN SDG 12: Responsible consumption and production and the circular economy promotion in Taiwan's 5+2 Industrial Innovation Plan, we drive the transition to a circular economy as well as exercise our industrial influence, facilitate the value chains as a whole, and collectively usher in the age of circular economy with zero waste and zero carbon emissions. We proposed five commitments with the 5R Principle higher than the statutory requirements at home and abroad:



- 1. Reduce:** Establish a green operation and consumption model to properly manage and reduce consumption of energy and resources, along with enhanced education and promotion for employees, suppliers, and customers.
- 2. Reuse:** Increase circularity and improve resource cycling technology for resource regeneration and recycling.
- 3. Repair:** Promote eco-friendly design and extension of service life of products and offer circular products that are more durable, easy to repair, and recyclable.
- 4. Refuse:** Promote green procurement, reject products with no green concept, and purchase products with green labels or with an equivalent efficiency thereof.
- 5. Recycle:** Facilitate an industrial chain symbiosis and develop forward-looking energy technologies to elevate energy/resource efficiency and promote recycling.

Upholding the brand spirit of "Always Ahead," we introduced BS 8001 Circular Economy in 2021 to our MOD services. Our MOD services offer customers multimedia content services like video on demand and applications as well as channels and programs supplied by operators. In the circular economy model of MOD services, for the upstream, we actively work with suppliers and start from design to minimize the size and power of MOD set-up boxes, successfully reducing the raw materials used and the power consumed by consumers; for the downstream, we recover the broken MOD set-up boxes for repairment and refurbishment before returning them to the market for reuse on the ground of no damage to customers' rights; for the disposal, valuable materials in the MOD set-up boxes are recycled by qualified service providers to avoid resource wasted and cut pollution.

In October 2021, we are verified against BS 8001 Circular Economy standards as the first domestic telecom operator that is verified against circular economy standards. With that, we aim to lead the industrial chain to build the business models of circular economy to advance toward the vision of sustainable circularity.

3G Green Stores

Chunghwa Telecom is a highly-localized telecom carrier, a generous contributor to community development, and one of the most important partners to other telecom carriers around the world. As technologies progressed and improved, we began some operations that were outside the conventional telecom boundaries, corporate sustainability concepts were introduced into products and services research, development, applications, and into the Company management strategies.

Green Revenue

In addition to developing products friendly to the environment, we have been promoting Green Stores and were the first telecom carrier in Taiwan to fully turn service centers into Green Stores. In 2021, green revenue was NT\$ 259.57 million, which was 11.94% of the commercial products revenue.



Paperless Receipt Service

Upholding the philosophy of energy-saving/emission reduction and green action for Earth, along with saving the time and space for customers in the collection and preservation of hardcopy receipts, we have been promoting electronic billing since 2001, and reduce carbon emission by eliminating the use of paper bills. In 2017, we offered paperless receipt service. At the end of 2021, the percentage of paperless receipts exceeded 71%. The service saved 590 million sheets of paper and an estimated 54,382 trees, reducing carbon emission by 10,768 metric tons.

Year	2019	2020	2021
Customer applying for e-bills (10 thousand)	1,933	1,968	1,994
Ratio of customers applying for e-bills	70%	71%	71%
Quantity of paper saved (per 1,000 sheets)	579,946	590,400	598,200
Number of trees saved	52,722	53,673	54,382
Reduction of carbon emission volume (metric ton)	10,439	10,627	10,768

- The data of paper saved and reduction of carbon emission is by e-bills (including SMS) and combined bills.
- Each e-bill reducing the use of envelopes and paper are 2.5 sheets of A4 paper. Total amount of paper saved: number customers applying for e-bill \times 2.5 \times 12 (month).
- 1 sheet of A4 paper generates 18 grams of CO₂; Carbon emission reduced: number of paper saved (1,000 sheets) \times 18 grams.
- The number of trees saved: each ton of paper pulp produced=20 trees; one ton of paper pulp=220 thousand sheets of A4 paper. Therefore, the number of trees saved = number of papers saved \div 220 thousand \times 20.

The Sole Net-zero Carbon Emission Store in The Industry of Taiwan

In Q2 2020, "CHT Syntrend Store" became the first service center in Taiwan with Carbon Label for Services and the only carbon neutral store in the industry! Through certification and verification against standards at home and abroad (ISO 14067 and EPA's Carbon Label for Services) as well as the purchase of 50 metric tons of carbon credits, it thus obtained the certification to PAS 2060 for carbon neutrality.

We have connected tightly eco-friendliness and green energy with network services. While offering premium services to the general public, we further aim to achieve a green communication with our consumers for them to capture the ecofriendliness and low-carbon nature in products and services precisely. As such, we live up to our corporate philosophy "Always Ahead".

4G Green Supply Chain

The responsibilities and mission of Chunghwa Telecom, as the leader of the telecom industry, are Green of ICT and Green by ICT. This implies facilitation of the greenness of the ICT industry (Green of ICT) and overall greenness of society through ICT (Green by ICT). From 2008 onwards, Chunghwa Telecom developed measures year by year to improve the sustainability of the supply chain, and we accomplished two pioneering achievements:

We were the first telecom company to propose the "Sustainable Supply Chain Initiative"

Effectively connecting with internationally prominent sustainability organizations and partners, also connecting the supply chain to respond to the United Nations Sustainable Development Goals (SDGs).

We were the first in the industry to join the "CDP Supply Chain Project"

We invited nearly a hundred suppliers to participate in an international platform to submit carbon management information and improve their ability in managing carbon emissions with scientific and quantification mechanisms.

Moving forward, the green supply chain will not only be limited to the green actions by our suppliers and extension of the lifecycles of green products. CHT will continue to focus on the value-added ICT applications, betterment of various systems to apply them to the supply chain, as well as coordinated management and comprehensive monitoring.

5G Green Procurement

Chunghwa Telecom supports government policy and prepares annual budgets for the purchase of green products that are either environmental-certified (less polluting, recyclable, resource-saving or green building material) or self-declared to be of less environmental impact throughout the product lifecycle (from raw material to disposal). The Company also actively participates in green procurement programs and activities to inspire green purchases amongst others in the industry and the public.

Our goals and policies concerning green procurement, as we hope to maintain green purchases at more than 5% of the total purchases per year over the mid-term, and increase this percentage to more than 50% over the long term. To achieve this goal, we incorporated the ISO 20400 Sustainable Procurement Standard at the end of 2018. The implementation of the ISO management system helped reinforce the idea of green procurement.

Year	2019	2020	2021
Green procurement total (NT\$ million)	1,024	904	14,994
Accounted percentage of total procurement	2.47%	1.08%	22.37%

- For more information about Green Supply Chain and Green Procurement, please refer to p.124-131.
- Key drivers for the green data in 2021
 - Inclusion of products with Gold rating from the Electronic Product Environmental Assessment Tool (EPEAT), promoted by US Environmental Protection Agency (EPA) and Institute of Electrical and Electronics Engineers (IEEE), with criteria as follows: Reduction/Elimination of Environmentally Sensitive Materials, Materials Selection, Design for End of Life, Product Longevity/Life Extension, Energy Conservation, End-of-Life Management, Corporate Performance, and Packaging.
 - Exclusion of items with no green marks or equivalent in services and construction works in the statistics.



Carbon Footprint Label No. 2014832001
per person served
<http://www.epa.gov.tw>



2021 Environmental Performance

Item	Description
 Environmental Information Disclosures	<ul style="list-style-type: none"> Published ESG reports and disclosed environmental data to respond to the Dow Jones Sustainability Index (DJSI) Execution of an annual greenhouse gas inventory and acquisition of ISO 14064-1 verification and certifications Responded to the annual Carbon Disclosure Project (CDP) questionnaire Responded to related national rating questionnaires (including Common Wealth Magazine, Global Views Magazine, and Taiwan Corporate Sustainability Award) Signed on as a supporter of the Task Force on Climate-related Financial Disclosures (TCFD) initiative and disclosed relevant information in line with the TCFD Framework
 Improve Energy Use Efficiency	<ul style="list-style-type: none"> Merged and exploited data center spaces Adoption of efficient, energy-saving equipment to improve the PUE performance of IDCs PUE values of IDCs reduced year by year from 1.67 in the base year of 2020 to 1.657 in the end of 2021 with an aim for 1.50 by 2030 Green building materials adopted for newly-established IDCs or hostels Set up rainwater, underground, and condensed cooling water recycling systems for the reuse of water resources Replaced lamps in the public areas and internal office buildings with environmentally friendly LED bulbs
 Implement Green Energy	<ul style="list-style-type: none"> Constructed 4,506 kWp of photovoltaic systems by the end of 2021 Acquired 111 Taiwan Renewable Energy Certificate
 Autonomous Environmental Protection	<ul style="list-style-type: none"> One and only in the industry of Taiwan: Banqiao IDC passed ISO 14046 certification Replaced old vehicles with environmentally friendly ones, and used electric vehicles in trials Sponsored the construction of the YouBike station at the corner of Xinyi Road and Hangzhou South Road Promoted clean homes, energy-saving offices, car-free days, and paperless Office Document Automation System (ODAS) The Taiwan Energy Conservation Patrol: focus on increasing energy efficiency within small and medium enterprises and vulnerable social institutions Set waste reduction and recycling targets
 Value-Added Products and Services	<ul style="list-style-type: none"> One and only in the industry of Taiwan: net-zero emission Syntrend store acquired both the EPA's Carbon Label for Services domestically as well as the ISO 14067 and PAS 2060 internationally Promoted e-bill with a marketing section, featuring eco-friendliness, energy-saving, and emission reduction Electronic invoicing: invoice data were prepared for permanent cloud storage to save material, human resources, and receive preferential tax treatment as an incentive and exemption from fines by the government iEN smart energy-saving services and promotion of energy-saving products Mobile device recycling: "Cellphone Recycling for a Sustainable Earth" store trade-in campaign to install recycle bins to the service centers in line with the promotion for waste recycling; 10.106 metric tons of cellphones recycled with a reuse rate of 87.89% in 2021 Green Stores: transform 691 service centers nationwide into Green Stores Collaboration with the Sustainable Alliance for Low-carbon Economy (SALcE) to issue the Sustainable Partnership (products, services, and organizations) Certificate

Sustainable Supply Chain

Every year Chunghwa Telecom purchases the software, hardware and services necessary for operations from international and domestic suppliers. This includes networking and data equipment, cables, marketing, design and waste disposal services. Our enormous purchasing power gives us a profound influence over the supply chain, hence the responsibility to guide our suppliers in the fulfillment of their ESG. This is achieved by implementing conduct that complies with the international supply chain ESG standards to guide the ICT industry towards sustainability.

We were the first telecom enterprise in Taiwan to join the CDP Supply Chain Project in 2017 when the industry was confronted by the critical issues of global climate change and its effect on corporate development. In 2018, we again became the first telecom company to incorporate the ISO 20400 Sustainable Procurement Standard. We strive to establish a better connection to the world on our path towards the development of sustainability. We officially launched Sustainable Partner Certification mechanism in 2019. A total of 24 sustainable suppliers have been awarded with Gold-tier certificates as of 2021.

From earlier on we have encouraged suppliers to disclose their carbon emissions and reduce them gradually. We plan to incorporate low-carbon emissions into our tender regulations: only groups with carbon emissions under a certain level can participate in our tendering process. Through sustainable planning, supplier evaluation and a green supply chain constructed on a hierarchical management system, we hope to achieve the following goals of sustainability: environmental protection, effective operations and management, robust labor rights, as well as safety and health.

✿

CHT's Sustainable Supply Chain Initiative – Sustainable Partner Certification

Chunghwa Telecom upholds its company motto and its mission as a Digital Economy Motivator and a Creative Industry Pilot, formally adopting the ISO 20400 Sustainable Procurement Standard in 2018. With that, it evaluates its suppliers' sustainability performance with the sustainable framework.

We launched "Sustainable Partner Certification" mechanism in 2019. We examine suppliers by SGS second party audit results as well as their type and level of importance, and rate them as 4 tiers of "Gold, Silver, Bronze and Participation" accordingly. If a supplier fails to pass the certification process, it is granted a limited period of time to implement corrective measures. Rated suppliers shall receive a mark that corresponds to their rating, and an excellent mark will be seen as a favorable term when submitting a tender.

We hope to compile a "Chunghwa Telecom Sustainable Supply Chain" list through evaluation, training, audit and certification; we'd also like to lead our suppliers toward a sustainable future, improve the sustainability of telecom companies, business, and society as a whole, as well as keep abreast with the international trends of low-carbon economy.

Establish the standard for sustainable procurement

Compliance with the Seven Core Subjects of the ISO 26000 standard and other international standards

Performance assessment and continued improvement

Choose procurement items

Eligibility evaluation

CHT suppliers Sustainable Partner Certification

Set the standard for minimum requirements

Evaluate suppliers' capability

SGS second party audit

Evaluate fulfillment of sustainability requirements

Suppliers ESG assessment questionnaire

Supplier selection mechanism

SGS second party audit

Supply Chain ESG Management Strategy

Strategy	Management Target	2021 Results
Integrate ESG Principles to Chunghwa telecom supplier assessment	Complete 100% of "tier 1 suppliers" ESG current status assessment in 2020	100% of suppliers completed the ESG survey questionnaire
Ensure ESG conduct of the suppliers complies with "Code of Corporate Social Responsibility for Suppliers of Chunghwa Telecom Co., Ltd."	Complete 100% of "critical tier 1 suppliers" ESG on-site visits and audits in 2023	ESG on-site visits and audit rate reached 75%
Continue communication activities to promote supplier climate change adaptation measures and emissions data management	<ul style="list-style-type: none"> Complete 100% of "critical tier 1 suppliers" carbon management knowledge education in 2021 Collect information on climate change and carbon emission from suppliers at least once a year. The number of suppliers who respond to Chunghwa Telecom's CDP Supply Chain Project questionnaire reaches 200 	<ul style="list-style-type: none"> 100% completion of carbon management knowledge education and trainings for the "critical tier 1 suppliers" The first Taiwan telecom carrier to participate in the CDP Supply Chain Project The suppliers' response rate to the questionnaire was 49%

The Chunghwa Telecom suppliers fall into three categories: construction work, property and service. Apart from professional network communication equipment to be procured internationally and that the amount of which was higher for the 5G deployment in 2021, we procured locally as much as possible to facilitate the local economic development. The domestic procurement percentage was 89% in 2021, increased by 9% compared to the previous year.



Suppliers Analysis

Item	Number of Suppliers	Accounted Percentage of Turnover
Tier 1 Suppliers	2,020	99
Critical tier 1 suppliers	192	85
Critical non-tier 1 suppliers	27	-

- Tier 1 suppliers are those that provide products or services directly to Chunghwa Telecom with an annual procurement of ≥ NT\$100 thousand.
- Critical tier 1 suppliers are those that provide products or services directly to Chunghwa Telecom with an annual procurement of ≥ NT\$50 million.
- Critical non-tier 1 suppliers are those that provide critical products and services to CHT tier 1 suppliers, but are not CHT tier 1 suppliers.

ESG Capacity Promotion of Suppliers

In 2021, aside from the existing Annual ESG Supplier Conference and environmental education visits, we organized ESG education and training for suppliers, which were held online instead due to the concern of COVID-19, inviting 26 representatives from nearly 47 suppliers. Apart from the ESG lecturers internally, we also invited professional ESG consultants to offer a 4-hour ESG program. With the education and training, we expected to communicate to the suppliers our commitment to the sustainable supply chain management and Sustainable Partner Certification system, so as to collectively bridge the supply chains of telecom industry to the international trend of sustainability, which also come with the benefits in the ESG area.



ESG On-Site Audits

To promote awareness of ESG management in supply chain partners, SGS-Taiwan has been granted to tier 1 supplier on-site audits since 2010 in accordance with ESG principles of supply chain of Chunghwa Telecom. Since 2019, we increased the number of suppliers for second-party audit to 20 with an additional review process. We commit ourselves to 100% completion of ESG second-party audit for our key tier 1 suppliers by 2023. To make sure all our supply chain partners will be in compliance with ESG management requirements, our goal is to complete the sustainability rating of 140 suppliers and issue the certification mark by 2025.

CHT Management Indicator	Method	Ratio
Supplier ESG auditing ratio per year	<ul style="list-style-type: none"> Occupational health and safety on-site audits / engineering and cable audits Second-party audit by the SGS-Taiwan Critical non-tier 1 suppliers audits 	75%
Percentage of suppliers assessed in ESG in the last 3 years		25%

Overview of the Supply Chain ESG Management Results

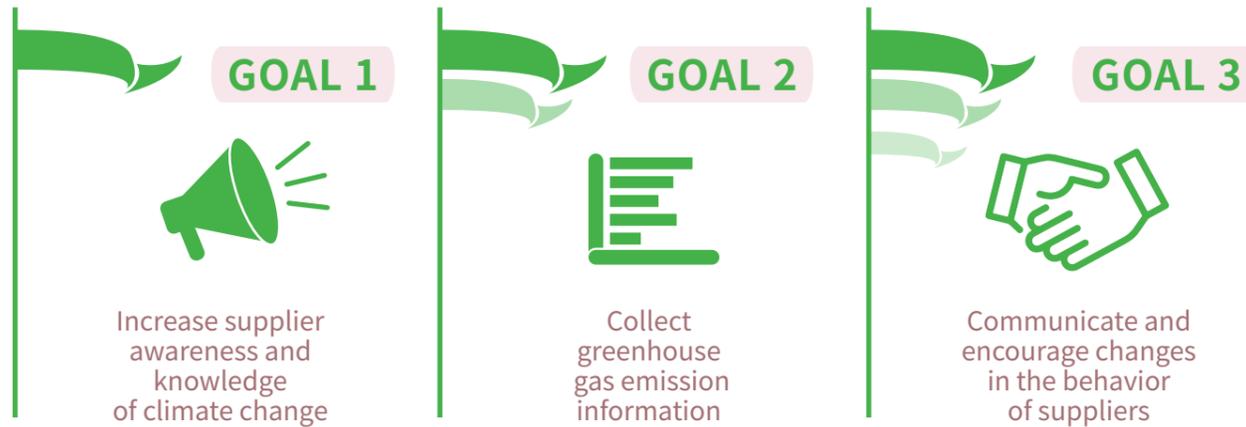
Item	Description	2021 Goal	2021 Outcome	2022 Goal
Completion of Online Supplier ESG Survey	Suppliers with a procurement amount of NT\$5 million or above is liable to fill out the Supplier ESG Survey that covers items of corporate ethics, labor rights, environmental management, and occupational safety and health.	95%	100%	95%
Procurement staff that received ESG-related training	It is to ensure all CHT procurement staff understand and execute faithfully the "Code of Corporate Social Responsibility for Suppliers of Chunghwa Telecom Co., Ltd."	100%	100%	100%
Supplier contracts containing ESG-related terms	Suppliers are explicitly required to abide by the "Code of Corporate Social Responsibility for Suppliers of Chunghwa Telecom Co., Ltd." in their procurement contracts.	100%	100%	100%
"ESG self-assessment form for suppliers" included in the documentation necessary in the tendering process	Tendering documentation stipulates that all bidders to fill out ESG self-assessment form for suppliers; additional elaboration on improvement is required in the event of breach of laws or regulations by suppliers.	100%	100%	100%
Suppliers without violations against environmental protection laws*	The environmental management status by suppliers is captured via online questionnaires.	100%	100%	100%
Supplier ESG second-party audit	Through second-party audit, key suppliers are ensured free from environmental and human right risks such as forced labor.	100%	100%	100%
Audits on civil engineering/ cable contractors	A total of 142 audits were carried out on 72 contractors. As of the end of 2021, 32 suppliers were found with incidents of violation and the fines amounted to NT\$928 thousand.			
On-site safety and health inspections	Occupational safety and health officers under the Northern and Southern Taiwan Business Groups and the Mobile Business Group conduct at least three on-site safety and health inspections per week. Upon discovery of non-conformities, relevant departments will be notified for corrective action tracking. A total of 519 inspections were conducted on 379 contractors in 2021.			

In reviewing the ESG questionnaires responded by the suppliers, the responsible unit would also inquire if there had been any economic, environmental, or social violation, while a persistent failure in improvement of any incident, which resulted in fines totaled NT\$1 million or above, was deemed as a violation.

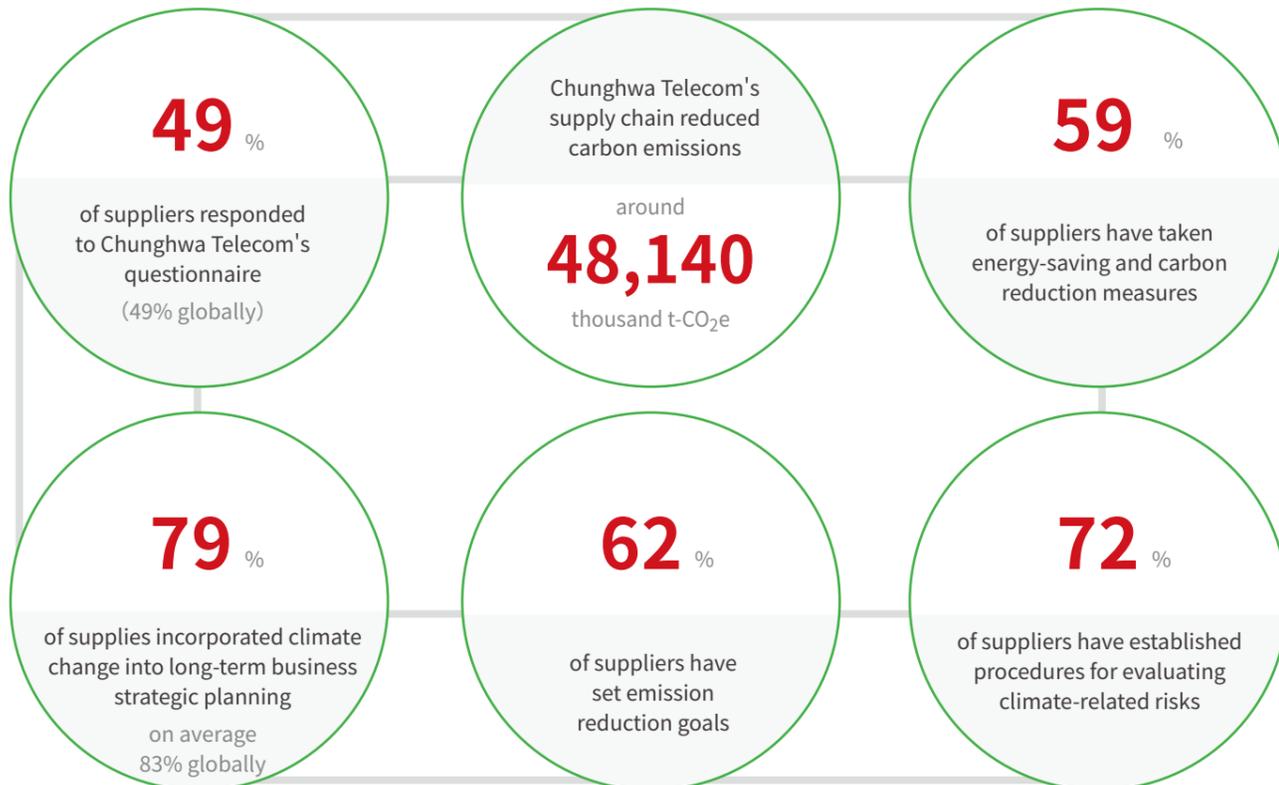
The first Taiwan telecom carrier to participate in the CDP Supply Chain Project Connecting Low-Carbon Supply Chain

After The Paris Agreement took effect, we entered an age of low-carbon economy. Chunghwa Telecom is a carrier in the information and communications industry, and this is a crucial issue of great urgency. We need to understand and respond to the impact of climate change and plan appropriate response strategies and actions at once.

In 2017, CHT first joined the "Carbon Disclosure Project (CDP) Supply Chain Project." We are promoting an understanding of climate change among our suppliers and will make every effort to increase their efficiency in carbon management. CHT is going to put an encouragement mechanism in place that will help suppliers with the research and development of products and services that have less impact on climate and environment. Our three goals for the supply chain carbon management are:



Abstract of the Results of Chunghwa Telecom's 2021 "CDP Supply Chain Project"



The Achievements of CHT's 2021 Supplier Energy Conservation Project

Types of Projects	The amount of Carbon Emission Reduced (t-CO ₂ e)	Estimated Amount of Money Saved Each Year (NT\$)
Changes in Corporate Policies and Behaviors	2,180,693	17,758,139
Energy Efficiency in Buildings	1,035,212	289,377,158
Energy Efficiency in Manufacturing Processes	58,532	311,630,289
Low-carbon Energy Consumption	41,123,207	3,633,000
Self-produced Low-carbon Energy	17,616	59,297,374
Waste Reduction and Material Recycling	1,416,177	51,020,000
Transportation	2,000,110	43,331,600
Others	312,718	18,820,103
Total	48,144,265	794,867,663

Improvement of Suppliers' Sustainable Actions

We published "Code of Corporate Social Responsibility for Suppliers of Chunghwa Telecom Co., Ltd." in 2011, and it clearly outlines the Company's expectations in terms of "business, ethics, labor, environment safety and health." The guidelines apply to all suppliers that provide products or services to Chunghwa Telecom or its subsidiaries or joint ventures, and extend to other participants of the supply chain to which the supplier is directly or indirectly related. We hope that suppliers will commit to our values and take more proactive steps towards maintaining a sustainable business ecosystem.

CHT shares resources with suppliers to help them develop R&D capabilities and future technologies. We also devote ourselves to the creation of a friendly and innovative environment. We engage suppliers in R&D projects, reward their contributions, and make arrangements for the transfer of acquired technology and licenses fairly. Regarding hardware, we continue to support the development of telecom facilities and testing environments; in terms of software, we utilize open platforms to share our benefits with suppliers.

Type	Description
Rewards top-performing suppliers	To reward top-performing suppliers, Chunghwa Telecom conducted a trial in southern Taiwan, offering qualified suppliers the privilege of tender bond waiver when submitting tenders, as well as a reduction of the performance bond to 5% of the value of the contract won. This was an attempt to exert influence as an industry leader and bring more attention to corporate social sustainability.
Training of professional skills	Our Telecom Training Institute has been providing suppliers with relevant training and certification courses to satisfy their requirements. Some of the popular courses include: cabling contractor certification, telecom line construction quality assurance certification, and fiber optic contractor training. In 2021, the institute organized 17 classes and trained 379 workers; 209 of whom had obtained certification.

* Participation in the Arena of Environmental Education Together with Suppliers in 2021 Video [🔗](#)

Supply Chain Sustainable Low-Carbon Management

2008

Published "Supplier's Environment and Human Right Guidelines" which asked suppliers to follow labor and environment regulations

2009

Formulated "Basic Status Survey on CSR for Suppliers" and formally started "supply chain CSR management" with CSR committee approval

2010

Invited critical suppliers to reply to the "Basic Status Survey on CSR for Suppliers" and held meetings to learn about supplier CSR compliance

2011

- Announced the "Code of Corporate Social Responsibility for Suppliers of Chunghwa Telecom Co Ltd"
- Started holding "CSR Supplier Social Event Supplier CSR Interchange Meeting" annually and the publication of the analysis results of supplier CSR compliance.

2012

Required that suppliers with purchase amounts of more than NT\$ 5 million have to complete the "Supply CSR Status Questionnaire"

2013

- Became the first telecom service provider to implement the "Supply Chain CSR Audit and Assistance"
- Stipulated the "Chunghwa Telecom's Operating Guidelines for Qualifying Material Suppliers" to manage the implementation of supplier CSR and ethical business practice

2020

- Organization of the first ESG education and training event for suppliers
- Certifications of Excellence in Sustainable Supply Chain and of Sustainable Partner by SALcE

2021

- BS 8001 Circular Economy conformity check passed
- Ongoing organization of Sustainable Partner Certification – Sustainable Products and Services Rating, with 24 Gold-rated suppliers thus far

2019

Officially launched the sustainable partner certification – sustainable products and services rating system as well as recognized and awarded outstanding suppliers Gold-tier Certificates" during CSR Supplier Conference



2014

Commissioned SGS-Taiwan, a third-party inspection institution, to launch the "Suppliers CSR second party audit"

2015

Established the "Chunghwa Telecom Co., Ltd. Procurement Grievance Procedures" to give suppliers the means to raise complaints regarding Chunghwa Telecom purchasing activities in an open and transparent purchasing environment

2018

- Formal incorporation of the ISO 20400 Sustainable Procurement Standard
- Collaborated with the Sustainable Alliance for Low-carbon Economy (SALE) to classify sustainable products and service and incorporated "Sustainable Partner" assessment mechanism, which consists of four tiers: Gold, Silver, Bronze and Participation. We were the first telecom company in Taiwan to implement Sustainable Partner Certification

2017

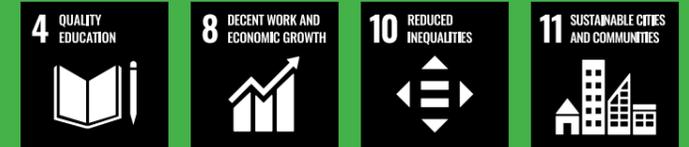
Formally announced the CDP Supply Chain Project membership and became the first domestic telecom carrier to participate on the international platform.

2016

Organized the first "Sustainable Environmental Visit"

The Social Value Guide

The SDGs CHT contributes to in this section



SMARTI

Strategy

Minimize the digital divide and create digital opportunities

Action

- 5I SDGs digital inclusion initiative
- Telecom universal service
- Digital Good Neighbors
- "Read with You" - Community Network Tutoring

Management

- The LBG assessment of investment in the community
- Social Return on Investment (SROI) calculation

Response

- "5I SDGs" strategies and goals
- Corporate volunteer action
- "I Helping" Training volunteers for the visually impaired
- "5G Plastic Free Day" campaign



Target

Short-term:

- Ongoing commitment to the universal telecom service
- Situation assessment to adjust offices of "Good Digital Neighbors" as appropriate

Mid-long term:

- Social investment will reach **0.5%** of revenues by 2025
- Support in hotspot deployment for huge national festivities, sports events, or other events
- The Chunghwa Telecom Foundation funds NT\$30 million every year to support Good Digital Neighbors in project promotion

Indicator

- GRI** Social investment: NT\$**1,153,814** thousand
- GRI** Telecom subsidy for underprivileged groups: NT\$**211,098.18** thousand
- CHT** Digital Good Neighbors: **89** locations
- CHT** SROI of "Read with You": NT\$**6.47**

Chunghwa Telecom "5I SDGs" Initiative

As the pilot of ESG, Chunghwa Telecom has developed its core competence to positively minimize the digital divide and devote itself to the creation of digital opportunities. Since 2015, we have chosen to connect with the 2030 Sustainable Development Goals (SDGs) of the United Nations. Through real action, we have demonstrated our determination to develop and implement global sustainability.

On the basis of complete digital inclusion strategy and bridging our years of experience in social inclusion, we promoted the 5I SDGs initiative. The "5I" in the initiative, apart from being a homonym to the phrase "I Love" in Chinese, the "I" also suggests to "achieve the SDGs via ICT" that effectively connects the SDGs with the objectives of the DIGI+ locally. By expanding partnerships in collaboration with NPO/NGO, supporting the sharing of knowledge and technology resources, creating a connection between the underprivileged and other diverse groups in this digital era, and realizing a win-win situation for digital human rights and an innovative economy, technology allows us to link to the good cycle.

CHT's 5I SDGs initiatives: I Helping, I Sharing, I Learning, I Technology and I Protecting, as the first real initiative in Taiwan that connects Sustainable Development Goals (SDGs) with the Digital Country Innovative Economy Development Program (DIGI+) from the Executive Yuan. The goals of the 5I SDGs are:



Embrace the world from Taiwan, officially responding and implementing the UN SDGs



Respond to the objectives of the DIGI+ of the Executive Yuan, widen the scope of digital inclusion and ensure Information Equality in the networked digital era



Leverage the core functions, connect expertise across branches and corporate volunteer resources, and work with professional communities to deepen the impacts of socially inclusive actions



I Technology

Corporate Volunteer

Technology Education Team

Core Competence

Utilize digital technology to promote digital equality

Action Plan

Cellphone expert program in service center

2030 Goals

- 1 Cultivate **2,000** technology education volunteers
- 2 Technology education services for over **5** million

5I SDGs Action Results in 2021

Smart Academy

In response to government's encouragement to the elderly and local citizens to partake in social activities, our corporate volunteers joined the service centers nationwide to help people in the communities to engage e-learning activities. Sessions: Ankeng, Xidian; Fenglin, Hualien; Pitou, Chang Hua; and Mingjian, Nantou, with 61 participants in total.

UN SDGs



I Helping

Corporate Volunteer

Visually-impaired Service Team

Core Competence

Assist the visually-impaired in bridging to digital technology and services

Action Plan

· Beacon case · Blind aid courses

2030 Goals

- 1 Benefits over **60,000** visually impaired people in Taiwan
- 2 Helping in lives and entertainment of over **200** thousand visually impaired

5I SDGs Action Results in 2021

"See the National Palace Museum" and whale watching activity "See the Beauty of Hualien at Sea via Technology"

The activities were cancelled due to COVID-19 pandemic and Typhoon Chanthu.

UN SDGs



I Protecting

Corporate Volunteer

Green Service Team

Core Competence

Save energy and reduce carbon emission to treasure Earth with green actions

Action Plan

· Reduce marine debris
· Energy-saving volunteering projects

2030 Goals

- 1 Help reduce energy and carbon emissions of communities over **1** million t-CO₂e
- 2 Cleaning the marine debris for over **100** t

5I SDGs Action Results in 2021

5G Plastic Free Corporate Volunteer Sustainability Action Tetralogy

The 5G Plastic Free Corporate Volunteer Sustainability Action Tetralogy kicked off both online and offline. The online actions included environmental education courses, online events on Facebook and Instagram with a reach of **3,394,367**; the offline actions included 5G Plastic Free Family Day and the nationwide beach/mountain cleanup activities with **20.7** metric tons of wastes removed by **4,200** participants.

UN SDGs



I Learning

Corporate Volunteer

Love in Learning Team

Core Competence

Bridging the rural-urban gap and flip education in rural areas

Action Plan

· Read with You · Foundation's projects

2030 Goals

- 1 Over **8,000** university students as tutors
- 2 Schoolchildren who have been tutored for over **180,000** hours

5I SDGs Action Results in 2021

1. FJU "Read with You" Community Network Tutoring Program

With **13** access points for learning in the 1st and 2nd semesters, respectively, the program was executed for **237** Little Learning Buddies and **369** Big Learning Buddies with **5,073** hours of on-line learning.

2. Tri-Hua Program

Together with Chunghwa Post Co., Ltd. and ASUS Foundation, we jointly organized "Pay e forward for Education" to make donations to the students in the **42** junior high and elementary schools in New Taipei City, Miaoli County, and Pingtung County.

Chunghwa Post Co., Ltd. donated **2,800** retired computers. ASUS Foundation refurbished them into **200** recycled computers. With our provision of one-year quality broadband communication service combined, we jointly assisted the students to continue learning despite school shutdown to bridge the digital divide, fill the urban-rural gap, and create digital opportunities. The recycled computers helped in energy-saving/emission reduction and circular economy promotion, cutting over **70** metric tons of GHG emissions, which is equivalent to approximately **6,500** trees saved a year, benefiting the environmental sustainability.

UN SDGs



I Sharing

Corporate Volunteer

Community Service Team

Core Competence

Promote local services as a friendly significant neighbor

Action Plan

Taiwan telecom digital collection guided tour

2030 Goals

- 1 Over **50,000** Corporate Volunteer Services
- 2 Over **3** million communities stakeholders being helped

5I SDGs Action Results in 2021

Corporate Volunteer Training Seminars

A total of **7** sessions were organized for **23** participants at the National Science and Technology Museum (NSTM), **21** at the CHTTI Banqiao Branch, **33** at the CHTTI Taichung Branch, **14** at the CHTTI Kaohsiung Branch, **15** at the CHTTI Kaohsiung Branch, **35** at the CHTTI Banqiao Branch, and **20** at the CHTTI Taichung Branch. With **161** participants and **7** hours each, the training hours were **1,127** hours in total.

UN SDGs



5I SDGs Corporate Volunteering Hours in 2021

Category	Hours
NSTM - volunteering in ordinary days	2,883
NSTM - volunteering in holidays	424
Liudui Hakka Digital Collection Activity	1,749
Smart Academy	102
Taipei Marathon	420
5G Plastic Free Family Day	360
CHT Nationwide Beach Cleanup Activity	8,800
Total	14,738



I Technology + I Sharing – the Stronghold for the National Critical Infrastructure Protection

"National CIP Designated Exercise for Critical Infrastructure" led by the Executive Yuan is one of the highest level of national exercise, Chunghwa Telecom constantly evolves its technology and has been designated by the Executive Yuan to organize the Designated Exercise for seven years in a row. With multifaceted cyber resources and meticulous response capability against disasters combined, CHT was awarded the collective honor of "Outstanding Entity". Also, in light of the proper commanding and coordinating performance of our President Shui-Yi Kuo, which were highly recognized by the assessors, President Kuo was presented with the honor of "Best Commander".

Our core expertise span from mobile, fixed line, submarine communication cable, and data to the emerging technological energies like AI big data, cybersecurity, and blockchain, which fall into the "communications" area of the national critical infrastructure. The exercise went for more than 7 months. We joined hands with 26 external response entities and realized a highly efficient horizontal communication. Targeting complex scenarios such as natural disasters, cybersecurity, man-made terrorism, we deployed overall contingency plans that fully demonstrated our resiliency in

fighting and responding to disasters. As such, we successfully pulled off the contingency exercise that covered the widest in terms of disaster types and entity number while mobilized the most manpower over the years, and thus received the highest national recognition.

We shall continue to better the protections for various critical infrastructure, work closely with the public and private sectors to form joint defenses to ensure the business continuity of enterprises and the smooth communication and management of the country.



I Technology + I Sharing – NSTM Telecom@Taiwan for Holiday Scavenger Hunt Game



Starting from 2003, Chunghwa Telecom has been promoting the conservation of cultural heritage of the telecom services in Taiwan, including the interviews conducted with veterans for oral accounts inside the Company. Meanwhile, it collaborated with the National Science and Technology Museum (NSTM) for digitalization of relics and artifacts, organization of special exhibitions, education activities, as well as promotion, outreach, and other wonderful accomplishments.

Aside from the establishment of permanent exhibition "Telecom@Taiwan" in 2011 for offline exhibition, we are also committed to the promotion of digital museum online, featuring collection, cataloging and conservation, digitalization after photographing and scanning, search functions, and digital display of telecom relics and literature. Besides objects and literature studies, the oral history project through interviews with telecom veterans was set in motion in 2018 and has accumulated fruitful results over the years.

In 2021, we attempted to organize the holiday scavenger hunt game "Love of Telecom Lives on with the Helping Hand of NSTM" for the broader society to have the chance to learn and explore better the telecom service history in Taiwan. The activity went from April 27 to November 27, 2021 (halted during May to August due to COVID-19). 18 sessions were held with 1,697 participants in total. Through the web force of online check-in and snapshots, individuals of various age groups were drawn to learn more about the content in Telecom@Taiwan. As such, the general public had a good impression with Chunghwa Telecom for its attention to the history of its own and its generosity and effort to share it with the society at large.





I Protecting+I Sharing – 5G Plastic Free at Speed; 5G Plastic Free for Carefree



CHT launched the "5G Plastic Free Corporate Volunteer Sustainability Action Tetralogy" campaign in 2021. With the speed and sharing capability of 5G networks in transmission, we aimed to play the roles of "initiator" and "leader" on the path to environmental sustainability to guide our employees to put the idea of eco-friendly plastic reduction in action and in life so as to give rise to a carefree and plastic free life!

Chapter I

Environmental education materials were designed, produced, and recorded by employees themselves. 26,150 CHT employees were involved in the online environmental education course via the internal education system of Chunghwa Telecom Training Institute, along with a series of posts for environmental advocacy released on social media such as CHT's CSR Facebook Fan Page and Instagram official account.

Chapter II

Employees were encouraged to invite their friends and families as well as the general public to go to the campaign website (<https://cht5gplastic-free.com.tw/>). Through the web game *Plastic Challenge*, people's knowledge with plastic waste was put to the test. Also, the Facebook post activity "3 Meals per Day" was held to encourage participants to NOT use disposable utensils for 3 meals. The participants could take and upload photos for a lucky draw. The notion of environmental sustainability was thus promoted via these social media posts. In addition, an Instagram filter was available for download for the younger generation to showcase their green attitude.

Chapter III

For the 5G Plastic Free Family Day, we collaborated with Paperwindmill Theatre, inviting employees and the public to play the environmental (plastic-free) interactive game brought by Paperwindmill Theatre. Through the storyline, the environmental awareness was to take root in the participants.

Chapter IV

CHT employees nationwide were called upon to carry out mountain/beach/river cleanup efforts at 26 locations across the country. Through actions on the ground, we cleaned the damaged environments. A total of 2,200 participants were involved with 20.7 metric tons of wastes removed.

Moving forward, Chunghwa Telecom shall systematically join hands with its partners on the supply chain to march toward the sustainability management goals of plastic-free and carbon-free to become "Green Enterprise" that actively facilitates environmental sustainability and achieves sustainable development!



SUSTAINABLE DEVELOPMENT GOALS

No Poverty



- To bridge the gap of communication and information quality between the rural and urban areas, we go into the mountains and offshore islands to construct 4G cell sites.
- In response to the objectives of Digital Nation & Innovative Economy Development Program and Forward-looking Infrastructure Development Program - Digital Infrastructure, actions are taken as the testimony to CHT's capacity in social inclusiveness.
- Over NT\$400 million is allocated to construction and maintenance of universal telecommunication service to realize 4G in every town and village and 100% coverage in towns and villages in an endeavor to fulfill the visions of promote social innovation and information equality and realize the win-win of digital human rights and innovative economy.
- Responding to SDG 1 with actions to ensure that all, the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services.

Zero Hunger



- CHT develops AI agricultural analysis model. Agricultural sensors are deployed for catering to the needs of farmland to collect data of growth environment and weather for compilation and analysis to produce forecast of the farmland's conditions in the following days. Also, the data is uploaded to a smart agriculture cloud platform via NB-IoT technology, with which farmers can arrange their farming schedule accordingly.
- Through NB-IoT technology, technology is introduced to agriculture, analyzing key environmental monitoring parameters of produce. The optimum environment for produce's growth is built and risks of agricultural disaster are reduced via forecast of the future tendency of data changes, which facilitate the improvement of yield and quality of produce and achieve the goal of a smart quality agriculture.

Health and Well-being



- As the first telecom service provider that introduced OHSAS 18001 and TOSHMS as well as obtained certification of ISO 45001 – occupational health and safety management systems, CHT implements the management of its employees safety and health in an institutionalized and systematic manner.
- Health checkup for employees is conducted annually, together with Employee Assistance Programs, health lectures, hiking, tours, and sports competition for employees; professional medical doctors and health managers are invited to offer health advisory to employees, so as to build wellrounded caring measures for employees.
- The Mobile management tool eSafe Wizard App for occupational safety and health developed to allow personnel to manage the operation on-site via cellphone introduces cloud, paperless, real-time, and effectiveness into the safety and health management.

Quality Education



- Read with You Network tutoring program has been promoted joint forces with Fu Jen Catholic University since 2009, assisting disadvantaged students in primary and middle school students in the rural areas in their schoolwork while keeping the students company for their psychological need for companionship, which substantially facilitate school children in the rural areas in overcoming rural-urban gap and flipping their lives.
- CHT Digital Good Neighbor program executed for over a decade set up digital centers in 89 towns and villages across the country to promote digital applications joint forces with CHT, CHT Foundation, and local organizations and teams.
- CHT's ICT expertise is fully leveraged to assist local organizations in rural areas or in need to establish a stable network environment and ensure the rights to digital technology in local community.

Gender Equality



- We value right to work and gender equality; the pay to female employees, management level or not, is equal to that of a male employee.
- Directions for Chunghwa Telecom Sexual Harassment Prevention and Grievance Management has been stipulated to put the Act of Gender Equality in Employment into practice.
- Appeal Review Committee has been established to handle appeals concerning discrimination against employees and other inappropriate conducts. There are 5 members on the committee, including 3 female members, which is over a half of the seats.

Clean Water and Sanitation



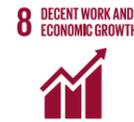
- Our water usage is primarily domestic purpose; apart from water for washing, water for cooling air-conditioning accounts for the majority of water usage.
- The water resource management nationwide is included in the EARTH system of CHT's own device, as the innovative water bill management in the system can achieve a centralized management of water bills and water usage throughout the branches in Taiwan with ease that not only reduces the waste of water bill printing, but also analyzes and controls the consumption of water resource via big data.
- In 2019, the water footprint inventory for the IDC at Banqiao introduce ISO 14046 water footprint standard and having obtained the assurance statement upon passing the SGS certification.
- Through the water footprint inventory of the IDC, the water usage and water pollution throughout the life cycle of the IDC are taken into consideration to identify the environmental risks concerning water resource and as the critical reference to the planning for water management policy and measures in the future.

Affordable and Clean Energy



- Renewable energy has been actively developed to bridge ourselves to green energy. As of the end of 2021, CHT has installed solar PV systems throughout Taiwan with a total capacity of 4,506 kWp.
- As of the end of 2021, 341 PV systems have been installed for others and connected to grids with the total installed capacity of 219,946 kWp, generating 281 million kWh per year, which is equivalent to the power consumption of over 80,000 households a year.
- With the commitment in the green energy industry, we assisted with the two construction projects of solar power plants for a subsidiary of Taiwan Cement and Taipower respectively, in which the solar power plant commissioned by the subsidiary of Taiwan Cement was the largest solar power plant construction project commissioned by the private sector.
- Working with Vitec Energy Taiwan Co., Ltd., we completed two solar power plants in Yilan County for Alchemy Steel Inc. and Yi Lian Steel Manufacturing Co., Ltd. respectively, With an installed capacity of 3,000 kW in total, it is estimated to generate energy up to 3 million kWh per year, reducing approximately 1,600 metric tons of CO_{2e} annually.

Decent Work and Economic Growth



- CHT is the only telecom carrier with a labor union established and a collective bargaining agreement with it. The agreement covers issues pertaining to layoff, reward/punishment, promotion, health and safety, etc. In 2021, the employees covered by the agreement reached 99.21%. Meanwhile, a labor director is appointed to sit on the Board of Directors to voice the needs of employees to the top level.
- Complete education, reasonable remuneration, and a dignified environment allow our employees to commit themselves at work and reduce turnover rate.
- In 2011, EYE Social Innovative Call Center was established and the first comprehensive solution in Taiwan was released, training the visuallyimpaired individuals into call center personnel and offering work opportunities.

Industry, Innovation and Infrastructure



- To improve the quality of broadband networks, we continue to construct the Fiber to the Home (FTTH) networks, with a coverage of 88% achieved in 2021, and 30% achieved for the 2Gbps ultra-fast broadband network coverage, in line with the Digital Government Program 2.0 of Taiwan (2021-2025) of the Executive Yuan for a leading broadband environment.
- Upholding the spirit of digital equality, we are actively deploying mobile network in rural areas and improving network infrastructure and communication coverage in the rural areas in addition to being the No. 1 in the number of cell sites both across Taiwan and of counties/cities deployed; the mobile broadband coverage in the rural areas is above 98.54%.

Reduced Inequalities



- We proactively monitor and protect human rights issue (anti-discrimination, gender equality, freedom of association, collective bargaining, child labor, forced or compulsory labor, and indigenous rights etc.). We respond to the UN Declaration of Human Rights and the ILO Convention on the elimination of all forms of discrimination.
- We prohibit forced and child labor, and also respond to the domestic legalization of UN International Covenant on Civil and Political Rights and the International Covenant on Economic, Social, and Cultural Rights, dedicating to promote human rights awareness and assure respect and fair treatment to all stakeholders.
- On digital equality issue, CHT is a member of the International Telecom Union and we fully comply with International Radio Regulations and assure the freedom of communication, transparency in global roaming charges and competition, support of Telecoms in developing nations, telecom services for persons with disabilities and the freedom of speech over telecom networks. In addition, we support the UN Guiding Principles on Business and Human Rights by conducting a human rights issue in the operational value chain is evaluated and we maintain all risk at a minimum level.

Sustainable City and Communities



- Following the development of IoT, 5G, big data analysis, and AI, as the Leader in Smart Living and Agent of Digital Economy Empowerment, we assist Taiwan in constructing smart sustainable cities via smart solutions.
- Utilization of Intelligent Operation Center (IOC) on the foundation of technologies such as IoT is at the core of a smart city.
- Local governments can integrate individual systems of different departments, collect and analyze municipal information, present it in an intelligent, systematic, and visual fashion, gain information of appeals from citizens, air quality, fire disasters, traffic safety, and medical resources, and construct sustainable, safe, health cities with the IOC platform.

Responsible Consumption and Production



- The first edition of CSR/ESG report was released in 2007 and has been disclosing the non-financial information of the corporation for 15 years consecutively.
- A green procurement strategy is fully implemented with over NT\$14,994 million of green procurement amount and accounting for 22.37% in the total procurement amount in 2021.
- We took the initiative of supplier CSR management actions in 2008, which made us the first telecom carrier that promotes ESG management for supply chain in Taiwan.
- From Code of Corporate Social Responsibility to questionnaire survey, annual ESG Supplier Conference, sustainability education, and on-site audits of over 100 suppliers in cooperation with the SGS, we improve the sustainability capacity of our supplier partners step by step.
- Through accumulation of a decade, apart from introduction of ISO 20400 sustainable procurement guidance, sustainable rating label was implemented in 2019, realizing the idea of sustainability in our products and services while maximizing the influence of procurement to create new green business opportunities.

Climate Action



- The dedicated Environmental Sustainability Task Force has been established under the Sustainable Development Committee, tasked with stipulation of environmental sustainable development goals and incorporation of issues of carbon management in the operation plan.
- In 2008, we introduced ISO 14064-1 greenhouse gases management system to inventory the carbon emissions with over 1,800 buildings and cell sites and pass the SGS certification each year, and the standard was officially converted to ISO 14064-1:2018 in 2020.
- We further connect to the external supply chains to promote sustainable, low-carbon supply chain practices and develop green products and services. Since 2016, approximately 50 supplier partners are led to environmental education venue to engage carbon management training to elevate their environmental protection awareness every year.
- We joined the CDP in 2018, promote whole supply chain carbon management actions, and are the first telecom carrier in Taiwan that signed and responded to the initiative of Task Force on Climate-Related Financial Disclosures (TCFD).
- We became the first telecom operator in the world that passed BSI's "conformity check for the TCFD Recommendations on climate-related financial disclosures" with the highest level attained.
- The "CHT Energy Efficiency Environmental Service" was established. With the expertise of our corporate volunteers, it provided volunteer diagnostic services in terms of electric engineering, HVAC, or professional lighting to help enterprises to obtain professional knowledge and the right ways to save energy, free of charge.

Life below Water



- In 2021, CHT leveraged the emerging 5G technology and worked with the unmanned vessel, Marine Vacuum Cleaner, developed by Azure Alliance. With the outstanding 5G communication capability in speed and low latency, we controlled remotely and cleaned efficiently the plastic debris in the ocean, using technology to truly form a virtuous cycle as well as listen and respond to social needs. The "I Protecting" model with results was born for us to play our part to "Protect the Ocean; Love the Planet" together.

Life on Land



- We worked with Dr. Jane Goodall in 2006 and formed an alliance to participate and care for environmental education and conservation issues and sponsored the Jane Goodall Institute in planning, producing, and publishing the "Roots & Shoots Environmental Education Newsletter for Children."
- "Sustainable Environmental Education" initiative, firstly created in 2016, we take 37 supplier partners to the environmental education venue to engage "Sustainable Environmental Visit" training in 2021.

Peace, Justice and Strong Institutions



- To ensure that all employees engage operation activities with the highest ethical standards, we have stipulated Ethical Corporate Management Best Practice Principles, Code of Ethics, and Procedures for Ethical Management and Guidelines for Conduct to lay out the required ethics and responsibilities when employees engage business conducts.
- Guidelines for Personnel Evaluation and Standards Governing the Administrative Rewards and Discipline of Chunghwa Telecom Personnel have been stipulated for personnel evaluation; rewards and disciplines are to be given in a timely manner pursuant to the regulations upon deeds worthy of rewards and conducts to be disciplined.
- Safe and rigorous whistleblowing mechanism is established; the employee grievance hotline is made available in the Employee Section on the EIP.
- Certification of Conformity to Code of Conduct by an external third party is conducted as of 2020.

Partnership for the Goals



- We connect organizations, global and local, with the corporate resources and core competences to serve specific stakeholders, stakeholders in the rural areas, and disadvantaged stakeholders, so as to create a digitally inclusive society.
- Since 1988, we have been working with the Center of Resources for Visual Impairment of Tamkang University and dedicating ourselves to aiding the visually-impaired with telecom technologies and development of a voice-based assistance App for the convenience of their lives.
- Since 2009, we have been promoting Read with You network tutoring for over a decade joint forces with Fu Jen Catholic University, replacing roads with networks to offer schoolchildren in rural areas a hand on their schoolwork.
- Since 2015, working with the NTU Hackathon and establishing the network environment in the venue for the participants to retrieve data to produce innovative solutions.
- To help the community industries in economic autonomy, the Foundation has been working with the partners of Good Digital Neighbors to conduct an integrated marketing and promotion of their hometown produces and giftboxes; combined with the purchasing power of our colleagues, we supported the community-based industries and spread their ideas of sustainability.

360 Degree of Digital Inclusion Actions

Chunghwa Telecom focuses its social investment in minimizing the digital divide and the creating of digital opportunities, given the specific nature and the core competence of information and communication in the ICT industry. We also spare no effort in the advocacy of corporate volunteers to participate in local community services, and proactively assist the communities in creating digital opportunities. We promote all aspects of digital inclusion using 360-degree vision.

In 2021, Chunghwa Telecom established 24 sites for accessibility to telecom services in long-term support of a government initiative to protect fundamental rights to communications.

Chunghwa Telecom Digital Inclusion Strategy and Results

Minimize the Digital Divide



Chunghwa Telecom Foundation Digital Good Neighbors

- The Digital Good Neighbors were located in **89** places



Preferential subsidies for the disadvantaged groups

Care for **76,905** households of the disadvantaged groups, with subsidies amounting to NT\$**211,098** thousand



The annual investment of Telecom universal service is approximately **4.8** hundred million

- Telephone services for more than **260,000** households in **86** "remote areas" and **9** "areas considered as remote areas"
- Data communication service for more than **140,000** households
- Data connection service for more than **600** high schools, primary schools, and public libraries.
- Approximately **33,000** public telephones installed across **22** counties/cities



Equipment supports for major events

- Broadband circuit, MOD platform promotion, mobile base station vehicles, SMS, Wi-Fi AP, temporary data circuit
- The coverage rate of the 12Mbps popularization broadband service is over **96.66%**

Create Digital Opportunities



Chunghwa Telecom Foundation Click Taiwan

- For the **13th** Click Taiwan Program, in consideration of the health of communities during the pandemic, it was scheduled to engage offline activities in 2022. Although the offline activities were on pause, the online promotion continued. Besides an ongoing operation of Click Taiwan online platform, "Click Taiwan" Documentary Emerging Talent Award was selected online, supporting the video production of the students in the program with action and communicating the force of positivity.



The CHT Digital Innovative Application Series

The CHT Digital Innovative Application Series has been running for **14** years to promote digital development in Taiwan



PC education Network tutoring

iPhone usage training courses for the visually impaired were regularly held in support of the visually impaired assistance plan



Assistance application development / Employment

- App for the Visually Impaired has been viewed over **20** million times since 2013
- We established the EYE Social Innovative Call Center where the visually impaired can become paid service personnel and earn their own living

Social Investment Management

Chunghwa Telecom refers to the community investment evaluation mechanism of the LBG (London Benchmark Group), to conduct evaluations on the possible community benefits and business benefits before an investment made. The quantification of the contribution of social investment allows us to make reasonable resources allocation while avoiding repetition. It helps the decision-making and promotion of charities as well as future sponsorship.

Social Investment Statistics for 2021

Unit: NT\$ thousand

Cash Donations	180,865
Product or Service Donations	385,867
Universal Telecom Services	478,784
Management Expenditures	58,824
Corporate Volunteer Services	49,473
Total	1,153,814



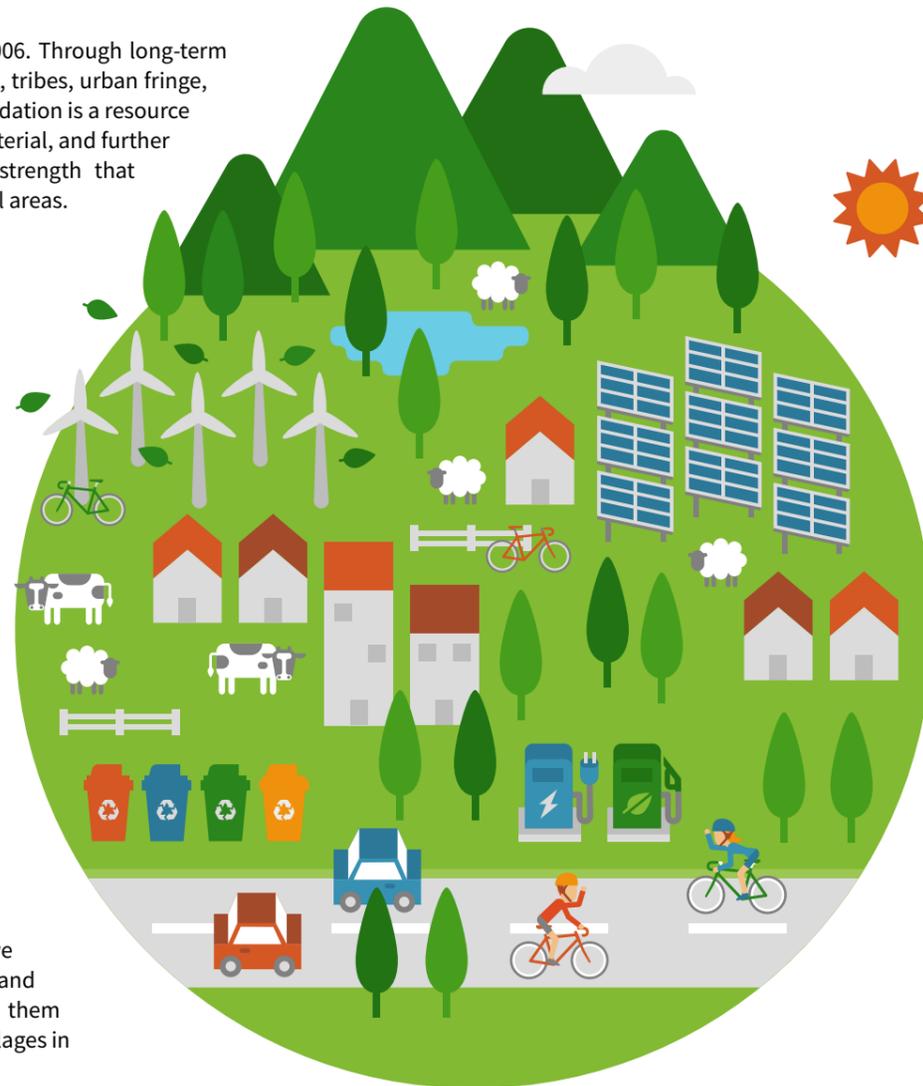
Minimizing the Digital Divide

Chunghwa Telecom Foundation was founded in 2006. Through long-term cultivation of our core competence to communities, tribes, urban fringe, and areas with relatively lack of resources, the Foundation is a resource platform for connecting and arranging the good material, and further share to needed locations. It has become the strength that supports and assists the advancement of these local areas.

Chunghwa Telecom Foundation Cultivates and Works with Communities for the Common Good

Chunghwa Telecom and Chunghwa Telecom Foundation have joined hands cultivating communities for 16 years, establishing digital good neighbors across Taiwan to bridge the rural-urban gaps in resources, serve as the platform to connect resources, offer resources such as community digital learning, youth volunteering, sports/cultural/art activities, and local industries promotion, as well as discover moving stories and local industries unique to local communities.

Today, the partnering bases have been set up across all corners of Taiwan Island and offshore islands, covering ethnic groups of Minnan, Hakka, indigenous peoples, and the new immigrants. With the unity and connection of good neighbors, we expect a variety of residents different in ethnicity and ages can all gain opportunities and energy from them while bridging the gap between cities and towns/villages in resources.



Promotion of Basketball Sport and Sportsmanship | Chunghwa Telecom Women's Basketball Team Gives Back to Communities

Established in 1974, Chunghwa Telecom Women's Basketball Team (CHT WBT) has been involved in "Love & Care Charity Tournament Series" for 11 consecutive years since 2011, hoping to convey the refreshing, healthy image of CHT WBT and the ESG philosophy of Chunghwa Telecom via the Series.

In 2021, to strengthen the bond with communities besides epidemic prevention, the activities were postponed to the end of year. "CHT WBT Homecoming" arranged the star athletes Tzu-Yin Pan, Yi-Wen Wang You, Hsiang-Ting Huang, and Yu-Shu Lin to return to their alma maters. They came to Hsinchu and Yilan to play basketball with the kids in the communities. Also, they mentored the athletes in the schools. In teams and in groups, they offered the right ideas and techniques about basketball. The series of activities drew nearly 300 students. With the basketball promotions, we explore for young seeds across Taiwan and encourage them to dare to pursue their dreams.



Promotion of Placemaking and Community Industries | "2021 Click Taiwan Innovation Design Action"

We saw the manpower and resource shortage locally and that the local industries were limited in terms of development. With 2020 as the point of departure, it came up with the project of "Click Taiwan Innovative Design Action." Thanks to the outstanding results, the project continued in 2021. The CHTF served as the resource platform to connect teams of students and teachers with design-related backgrounds from universities and colleges as well as cross-disciplinary lecturers. Upholding the spirit of co-creation, they assisted the local industries in terms of optimization and update, as we supported them to implement their design solutions to drive the industrial developments.

Hualien Pangcah Farm & Department of Creative Product Design, Asia University

Brand logo visual optimization

- The designer team helped optimize the existing visual of their logo and enhance the indigenous impression of the produce.
- The element of slogan was introduced to elevate the overall brand recognition.

Product packaging identity enhancement

- New culturally creative vegetable bags were produced with QR Code for consumers to learn more about the origin of the produce.

Agri-food educational material design

- Since Pangcah Farm had been committed to the promotion of the edible plants in the wild in the Amis culture, the guided tour process was standardized, and the educational materials were re-designed, so as to add more fun to the activity.



Hualien Christian New Dawn Developmental Centre & Department of Industrial Design, Tunghai University

Exhibition venue optimization

- The space and the traffic flow were improved to further the overall efficiency of venue utilization.
- Exterior design was used to draw consumers into the store for more opportunities of the residents interacting with the outside world besides more business opportunities introduced.

Giftbox design modulization

- Flexible giftbox designs tailored to the needs of consumers were provided to the community.
- Packaging design was developed in line with the handcraft capacity of the residents.

Logo & IP design

- Through the design of figurines with stories, the specialties of the center were highlighted to elevate the brand affinity with consumers.



Taoyuan City Xinwu District Ayshiang Association & Department of Cultural Creativity and Digital Media Design, Lunghwa University of Science and Technology

Circular design of marine debris

- Taoyuan City Xinwu District Ayshiang Association was committed to the promotion of the stone-weir culture in the community and the beach cleanup in the process. The marine debris collected became the core elements for the Association's works. Also, with the creativity of the designer team, new products rich in environmental meaning were developed.
- The ideas of environmental protection and sustainability were communicated through the products developed.

Logo identity design & derivative application

- With the Association's ideas incorporated and the stone weir as the point of departure, they designed the logo for the brand, followed by the design and production of the derivative merchandise.



2021 Social Contribution of the Foundation

Unit: NT\$

Youth Empowerment
492,363

Digital Empowerment
3,824,290

Local Empowerment
3,276,182

Social Marketing
4,047,969

CHT Women's Basketball Team
21,396,509

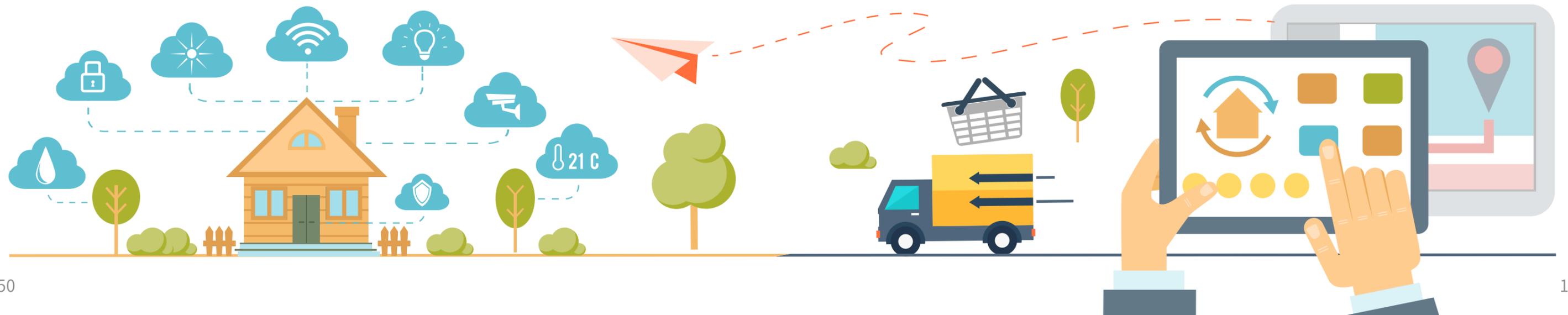
Preferential Subsidies for the Disadvantaged Groups

Chunghwa Telecom has long been subsidizing telecom services for the socially disadvantaged, and assuring their access to basic communications. The following are the main preferential plan and amount in 2021.

Preferential Plan	Preferential Content	Preferential Amount (NT\$ thousand)	Beneficiaries (persons)
Caring Series Rate Plan (Mobile)	<ul style="list-style-type: none"> Double communication hours from the original rate plan for the visually impaired, hearing impaired and speech impaired. 300 free SMS intra-network and 100 free SMS extra-network for the hearing and speech impaired. The intra-network image telephone rate is the same for 3G customers. 	305	94
Broadband Preferential Plan for Low-income Households	50% off on 16M/3M, 35M/6M, 60M/20M, 100M/40M, ADSL 2M/64K & ADSL 5M/384K monthly rate.	39,103	8,045
4G Mobile Data Plan for the Disabled	Disabled persons are entitled to an NT\$100 discounts for limited 399/436/499 plan, NT\$200 discounts on monthly subscriptions when subscribing to the 4G 599 plan and above plus Wi-Fi hotspots for free during the term of the contract. The plan was renamed as "Heartwarming Plan" as of October 2021.	141,977	52,779
Heartwarming Plan	Available as of October 2021, the plan (4G Mobile Data Plan for the Disabled originally) offers exclusive discounts for cellphone purchase and SIM-only plans. Besides the cellphone purchase discount, there are NT\$100-200 discount for the monthly subscription (subject to the plan selected), free CHT Wi-Fi service, free extra data or unlimited data (subject to the plan selected), add-ons, and extra talk time, and more.	1,327	3,301
Broadband Preferential Plan for the Disabled	<ul style="list-style-type: none"> 5% off on HiNet 16M/3M, 35M/6M, 60M/20M and 100M/40M monthly rate, 30% off for the announced rate of HiNet non-fixed monthly plan. 15% off on ADSL 5M /384K monthly rate. 5% off for other speed rates. Monthly rate for non-fixed Internet plan lowered from NT\$280 to NT\$180. 	17,035	9,191



Preferential Plan	Preferential Content	Preferential Amount (NT\$ thousand)	Beneficiaries (persons)
MOD Caring Plan and Project for the Socially Unfortunate	<ul style="list-style-type: none"> Platform charges: A 50% discount (NT\$45/month) from the work completion date. Subscribers of the MOD self-choose package, family premium package, family advance package, family advance package B, family high-quality package, family special package, family popular package, family golden package are entitled to 30% discount, and the normal rate after the discount period expires. The above plans all apply to the socially unfortunate and the caring project has no time limitation, the project for the socially unfortunate provides discounts for the first 24 months after the work completion date. 	Caring Plan: 7,646.8 Low-income Household: 3,690.4 Total: 11,337.2	Caring Plan: 2,319 users Low-income Household: 1,162 users Total: 3,481 users
Healthy Net Plan	Healthy Net Plan HiNet Adult Content Gatekeeper protects children from harmful websites such as pornography, violence, suicide, weapons, gambling, and drugs. The service in the first year is rendered to low-income households for free.	13.98	14
Welfare Public Telephone	<ul style="list-style-type: none"> Installed 110 cm from the floor in public areas for the convenience of the disabled. The keyboard was designed with embossing on the 5 key for the visually impaired, and a voice adjustment function (from 3db to 6db) was provided exclusively for people with hearing aids. A slot for inserting is designed on the side of an IC card for the convenience of the visually impaired. 		
Message Relay Service for the Hearing and Speech Impaired	<ul style="list-style-type: none"> All telephone messages will be translated and faxed to the service hotline 0800-080885 (Help Me in Chinese homonym). The service personnel will then relay the message in voice and return the message to the hearing and speech impaired caller (up to 80 words for the relay and up to 30 words for reply). Those who are not hearing and speech impaired may also call the hotline (0800-080880) for the relay of messages via fax to the hearing and speech impaired. The service hours are 08:00 to 21:00 daily. 		



The Creation of Digital Opportunities

By utilizing our expertise in telecom technology, we will ensure that everyone shares the advantage of technology despite financial or social standing, or geographical location. In this way we hope to quickly achieve the objective of minimizing the digital divide and creating digital opportunity. In addition to previously described action plans and subsidy, different from those of other enterprises, we also contributed resources to developing related products and services to meet the needs of the disabled and allow them to realize their right of access to the digital technology and convenient lives.

a Community Network Tutoring—"Read with You"

Chunghwa Telecom has supported education and shown its concern for rural villages ever since 2009, in the aftermath of Typhoon Morakot. We extended our service to the permanent settlements and newly developed communities in the disaster zones. Using visual Internet technology, we delivered educational resources in the form of private tutoring in rural villages for the unfortunate. We hope to give the children of the next generation a learning environment which is safe, dignified, and hopeful.



Item	Description	
Goal	By 2030, we hope to: <ul style="list-style-type: none"> Assist 5,000 students in the remote areas with network tutoring Accumulate more than 8,000 volunteers to participate in network tutoring Accumulate more than 150,000 training hours for tutoring volunteers training 	
Characteristic	Online education with one-on-one individual tutoring by university students helps pupils of junior high schools and primary schools in the rural villages to enhance their learning and provides equal learning opportunities.	
Method	<ul style="list-style-type: none"> To realize the spirit of stakeholder engagement, we have cooperated with the Center of Care Services for Taiwan Rural Area Education at Fu Jen Catholic University. University students helped the cause with one-on-one tutoring to take care of the school children in the rural villages and disaster zones. Customized exclusive class supplements to care for the spiritual growth of schoolchildren through companionship, interaction and communication. 	
Participant	Taoyuan Dayuan Catholic Church, Taoyuan Guanyin Catholic Church, Chiayi Fu Jen High School, ihope Association of Tainan Assembly of God, Kaohsiung Daai Library, Pingtung Feng-Lin Church, Pingtung Chao Chou Boys Town, Hualien Yuli Library, Taitung Fukid Tribe, Taitung Luye Library, Taitung Kaulahan Association, Taitung Citong Library, Taitung Lanyu High School, and Matzu High School.	
Major Result	<ul style="list-style-type: none"> University students improve the children's learning outcomes with one-on-one individual tutoring of the school children in rural villages. They also took care of their need for personal communication and interaction. More than ten-years efforts by e-Tutor, it has helped several dozen students gain admission to national and private universities, including the National Yang Ming University and Taipei Medical University. Assistance to remote villages has really reduced the divide between the cities and counties, radically improved the opportunities available to the children and changed their lives. 	
Schoolchildren who have been Tutored	University Students as Tutors	Tutorial Hours
237 persons	369 persons	5,073 hours

The person-times and training hours for the mid- and long-term targets for volunteers were adjusted thanks to the early attainment of the program's targets.



b Assistance Application Development

We believe humanity to be the foundation of technology innovation. In 2013, we launched a Voice-based Personal Assistance App that was specifically designed for the visually impaired. The App incorporates image, voice, reading, and lifestyle functions to assist both visually impaired and elders to face some of their difficulties. We also successfully developed "i4Blind" App in 2016 that makes a great assistant to the visually impaired and the elderly in life. In 2021, the number of logins hit 630,000 with over 29,670 million viewings accumulatively.



C EYE Social Innovative Call Center—Innovative Technology for Hope

Chunghwa Telecom has engaged in long-term cooperation with the Resource Center for the Visually Impaired at Tamkang University. EYE Social Innovative Call Center was set up in 2011. These joint efforts led to the unveiling of the first Total Solution in Taiwan. It includes research, development, and improvement of a computer-assisted telephone system, and its corresponding skill development, training, supervision for the needs of the visually impaired talents to offer the phone-services.

- In 2015, the Company completed an upgrade to the Taipei City 1999 hotline, making it user-friendly to the visually impaired. This upgrade included: a real-time notification system, a three-way call feature with voice recording, English/Japanese services, a verbal abuse referral feature, a call duration reminder, a health regulation inquiry feature, and a quick link to service sub-categories. These upgrades greatly improved the scope and efficiency of the service.
- By the end of 2018, the Total Solution had provided 8 working opportunities for the satisfaction surveyors of Chunghwa Telecom (including one visually impaired manager). And there were another 15 customer service personnel (12 visually impaired and 3 supervisors) for the Taipei City 1999 hotline.



d Automated Voice Donations

The automated voice system for donations developed by Chunghwa Telecom Laboratories has proved to be helpful for charities, social welfare, cultural, educational, and environmental protection institutions. It gives donors a more convenient means of donation. A donor simply needs to pick up their cell phones, dial the short code, and follow the voice prompts to contribute care to those in need.

- In 2020, we produced approximately 5,500 valid questionnaires with a yield rate over 96% on a monthly basis. In average, the 1999 Citizen Hotline of Taipei City processed about 8,000 calls monthly with 10 external entities visiting the call center annually, which made it a model for the other call centers.
- With a yield rate over 96% in 2021, on average, the 1999 Citizen Hotline of Taipei City processed about 12,000 calls monthly with 10 external entities visiting the call center annually, which made it a model for the other call centers.
- We initiated new employment opportunities for persons with spinal injuries. Including one with severe injury serves as 4G visual assistance service personnel, i.e. assisting visually impaired people with image identification through 4G cloud services, which helps to promote the quality and independence for the visually impaired people's daily life while providing employment opportunities for the severely disabled.

* Video [🔗](#)