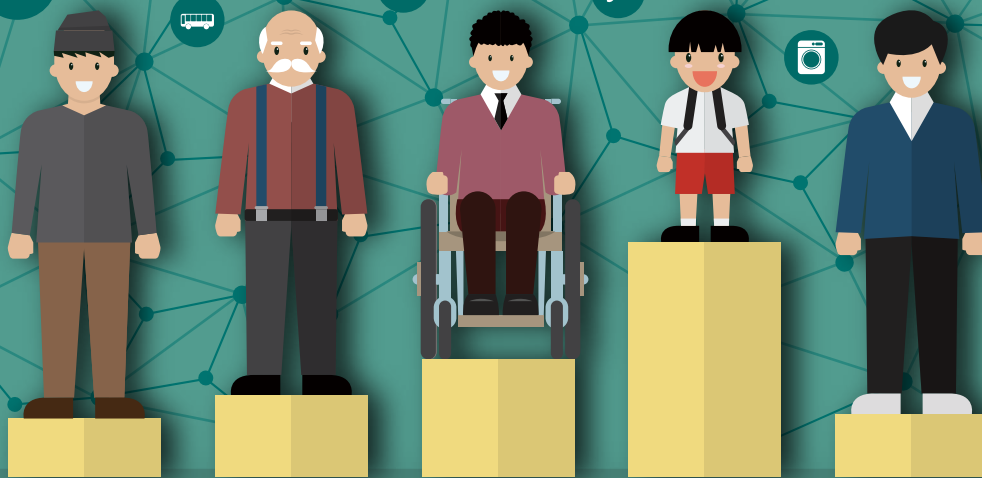


數位國家·創新經濟

## E化M化台灣—— 提供數位機會 實現數位平權

E-Taiwan and Mobilized Taiwan for Digital Opportunities and Realization of Digital Equity



若水國際 引領身障就業跨入AI智能

Flow Inc. Brings Artificial Intelligence Jobs to the Disabled People

明基友達基金會 為實踐偏鄉數位關懷而努力

BenQ Foundation Working Hard for Digital Care in Rural Areas

資策會國際處結合產官學 以數位平權讓臺灣走向世界

International Division of the Institute for Information Industry Promotes Digital Equity by Bringing Taiwan Government, Industries and Academics to the World

「智慧生活顯示科技與應用產業策略(SRB)會議」

SRB Conference for Smart-Living Display Technology and Applications Industry





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## 編者的話

### Editor's Words



## 科技會報辦公室 執行秘書 蔡志宏

Zse-Hong Tsai, Executive Secretary of  
the Office of Science and Technology

數位科技已經是每個人生活中的一環，一機在手，隨時上網獲得最新最快的資訊，已經是臺灣民眾的生活日常，更因為雲端化、行動化等服務與商機，科技深入交通、醫療、教育、娛樂、生活……等領域，帶動無人車、智慧家庭的快速發展。

臺灣的前瞻基礎建設計畫中，數位建設是重點計畫之一，政府以「城鄉連網零落差、優質寬頻隨手得」為願景，全力朝向超寬頻網路社會發展，期待人人擁有智慧手機、平板或筆記型電腦、處處有網路、隨時可通訊為數位平權評鑑的重點。

本期透過國家通訊傳播委員會代理主任委員陳耀祥、新媒體《風傳媒》前副總編輯沈超群及7月因心肌梗塞離世的陳俊朗（陳爸）對數位落差及數位平權等的各項做法與看法，發現因應數位應用的浪潮，數位機會、數位平權已經成為全球各國政府關切的議題，透過寬頻網路的布建、偏鄉的數位機會中心運作，文化資產以科技賦予傳統全新價值等，不僅能推動數位各項基礎建設與數位應用服務，更能持續弭平城鄉數位落差，提供所有地區、族群和產業平等的數位機會。中原策略長暨資管系教授吳肇

Digital technology has become a part of everyone's life. People use smart phones to obtain the latest and fastest information online at any time. This is already the daily life of Taiwanese people. Moreover, with cloud, mobile service and relevant business opportunities, technology has deeply penetrated transportation, medical care, education, entertainment, life and other fields, driving the rapid development of driverless vehicles and smart homes.

In Taiwan's forward-looking infrastructure development program, digital construction is one of the key projects. With the vision of "zero urban-rural divide in digital network while making high-quality broadband readily available," the government is fully committed to the development of ultra-wideband society. The assessment on the Digital Equity focuses on whether everyone has a smart phone, tablet or notebook computer, and whether Internet is everywhere and available at any time.

In this issue, through the opinion of Yaw-Shyang Chen, Acting Chairperson of

the National Communications Commission, the view of Chao-Chun Shen, former deputy editor of Storm Media Group (a new medium) and the story of Jun-Lang Chen (Papa Chen) concerning digital divide and Digital Equity, we have found that, in response to the wave of digital application, digital opportunities and Digital Equity have become a topic of discussion of governments around the world. Through the deployment of broadband network and operation of digital opportunity centers in rural areas, technology has given cultural assets and tradition new values. This can

銘也提及，多年前中原大學參與政府數位機會中心的國際志工的工作，讓學生們了解數位機會的重要性，同時也體會臺灣寬頻網路的布建廣大的幸福感；公司規模像數位變革不斷更新般的若水國際公司執行長陳潔如就說，數位機會並不僅限正常人可以擁有，反而是身障者更需要數位結合科技與創新，為他們翻轉人生，也為商業模式開創新格局。長期在國內推廣數位機會中心的資策會，對於協助 APEC 資訊化程度後進會員國，縮減數位落差有很深的感觸。資策會國際處處長黃瓊雅表示，臺灣是個科技島，MIT 筆電桌機的製造優勢、雲端數位的領先技術，遠遠高過許多國家，經濟部國際貿易局及外交部委託資策會所執行的 APEC 數位機會中心 (ADOC) 計畫，數位機會中心 (DOC) 的 ICT 高科技是許多外國朋友認識臺灣的第一印象。

期刊中提及之「數位機會中心」，包含國內的 DOC 與國外的 DOC。其中國內 DOC 是由教育部推動，明基友達基金會積極參與教育部計畫，為實踐偏鄉數位關懷而努力；至於國外 DOC 則由經濟部與外交部努力推廣，資策會國際處的 APEC 數位機會中心 (APEC Digital Opportunity Center, ADOC)，則是案例之一。

早在 2012 年，通訊服務就已被聯合國指定為人權項目，通訊技術及智慧應用也成為世界各國推動國家發展的新動能，臺灣更鎖定「數位國家、智慧島嶼」的目標前進。而在這一波波數位化的腳步，將使臺灣在數位平權與機會從萌芽、落實到開花結果，展現無限可能！

not only promote various digital infrastructure and digital application service but also continue to remediate digital divide between urban and rural areas, providing equal digital opportunities to all regions, ethnic groups and industries

Chao-Ming Wu, Chief of Strategy and Professor of Department of Information Management, Chung Yuan Christian University, also mentioned that Chung Yuan Christian University participated in the international volunteers program of the digital opportunity centers many years ago. Through this program, students understand the importance of digital opportunity and appreciate the extensive deployment of broadband network in Taiwan and the happiness it has brought. As Sabrina Chen, CEO of Flow, Inc., said, digital opportunities are not limited to normal people. They help the physically and mentally challenged flip their lives through technology and innovation and create new business models.

Institute for Information Industry has long been promoting digital opportunity centers in Taiwan, and has deep feeling for assisting the APEC member state in remediating digital divide. Vivian Huang, Director of International Division of the Institute for Information Industry said that Taiwan is a technology island, and with the manufacturing advantage of notebook computers, desktop computers and cloud technology, Taiwan has far more experiences in digital technology, compared with many other countries. According to the APEC Digital Opportunity Center (ADOC) Program executed by the Institute for Information Industry under the commission of the Bureau of Foreign Trade, Ministry of Economic Affairs and the Ministry of Foreign Affairs, the ICT high-tech of DOCs are many foreigners' first impression of Taiwan.

The "Digital Opportunity Centers" mentioned in the journal include DOCs at home and abroad. The domestic DOCs are promoted by the Ministry of Education. The BenQ Foundation has actively participated in the Ministry of Education's program and worked for digital care in rural areas. The DOCs abroad are promoted by the Ministry of Economy and the Ministry of Foreign Affairs. The APEC Digital Opportunity Center (ADOC) of the International Division, Institute for Information Industry is one example.

As early as 2012, communication services have been designated as a human right by the United Nations. Communication technology and smart applications have also become the new force driving national development. Taiwan has positioned itself as a "digital nation and smart island," and has shown unlimited possibilities in this wave of digitalization with Digital Equity and opportunities sprouting, growing and blooming.



# E化M化台灣 提供數位機會 實現數位平權

## E-Taiwan and Mobilized Taiwan for Digital Opportunities and Realization of Digital Equity

數位科技早已進入你我的生活中，人手一機、隨時上網都是台灣民眾的共同體驗，伴隨著雲端化、行動化等服務與商機，提供數位機會，卻也標示著數位落差的可能。

我國政府在前瞻基礎建設計畫中，特地聚焦在數位建設，許下「城鄉連網零落差、優質寬頻隨手得」的願景，全力朝向超寬頻網路社會發展。在現今的社會，是否擁有智慧型手機、平板電腦、筆記型電腦，能否隨時上網、搜尋查找所需資訊，都成為數位平權的關鍵。

Digital technology has been in our lives. Almost everybody has a mobile phone and has access to Internet at any time. This is our common experience. While cloud and mobile service create business opportunities and digital opportunities, they may also bring about digital divide.

In the forward-looking infrastructure program, the Taiwanese government has specifically focused on digital construction with the vision of "zero urban-rural divide in digital network while making high-quality broadband readily available," fully committed to the development of ultra-wideband society. In today's society, smart phones, tablets, notebook computers and Internet access at any time for information searching have become the key to Digital Equity.

### 數位力量： 越偏鄉就要越科技化

為此，教育部在全臺灣偏鄉建立數位機會中心（DOC），目前已在16個縣市共設有84個數位機會中心提供服務，隨後並提出數位學伴計畫，由大學生引導小學生數位學習。為落實數位平權，讓每個人都有公平的數位發展機會，我國政府積極地佈建寬頻服務，在全國公共圖書館、數位機會中心、新住民教室等場所提供100Mbps以上寬頻上網及設備借用服務，縮短數位落差，培訓大眾的數位創新能力。

### Digital divide remediation and innovative capacity nurturance

The Ministry of Education has established digital opportunity centers (DOCs) in rural areas in Taiwan. So far, 84 DOCs has provided services in 16 cities and counties with digital learning partner program providing elementary students with digital learning under the guidance of college students. To implement Digital Equity and give everyone with fair digital development opportunities, the Taiwanese government has actively deployed broadband service by providing 100 Mbps or more broadband and equipment rental service in public

數位科技也帶來無限的商機，正啟動新一波的行動經濟浪潮！我國政府宣示「數位國家·創新經濟」願景，經濟部將投入 2.5 億經費，打造數位寬頻應用街區，規劃至 109 年底前將輔導 40 個街區（截至 108 年 8 月已建置 35 個街區）。

「數位國家·創新經濟」願景，在偏遠地區的原住民部落，一樣可以看得見。以往在都市區隨處可見的 i-Taiwan 無線上網服務，對於偏遠地區的原住民部落來說，卻是難以奢求願望，但原民會於 103 年起在全國原民部落建置「愛部落 (i-Tribe) 原住民族地區無線寬頻環境」，今 (108) 年底累計規模將達 300 個部落，整體原鄉的資通訊再也不「卡卡」。

i-Tribe 愛部落網路服務是全球第一個以國家資源投入建置原鄉部落的戶外免費無線寬頻網路服務，對原鄉部落來說，i-Tribe 不僅是串聯原鄉部落與寬頻網路世界的高速公路，更是實現地方創生點火的關鍵。舉例來說，透過 i-Tribe，讓桃園市復興區的五月桃產值，由 105 年的 500 萬，一直攀升至 107 年的近億元產值；又如臺東縣金峰鄉的洛神花、紅藜等農特品，透過網路行銷，吸引遊客入鄉，帶動周邊商機；而衛福部也透過 i-Tribe，從雲端系統取得病歷資料，讓健保卡的過卡率由 20% 提高至 98%。

## 平衡數位落差 NCC 鎖定三大目標

早在 2012 年，通訊服務就已被聯合國指定為人權項目，通訊技術及智慧應用也成為世界各國推動國家發展的新動能，我國更鎖定「數位國家、智慧島嶼」的目標前進。無論官方或民間，我國這幾年積極推動數位各項基礎建設與數位應用服務，持續弭平城鄉數位落差，提供所有地區、族群和產業平等的數位機會。

為滿足偏鄉居民對超高畫質影音內容傳輸、物聯網、智慧家庭、雲端等服務需求，並落實平衡城

libraries, DOCs and immigrant classrooms all over Taiwan for digital divide remediation and digital innovation capacity training of the public.

Digital technology has also brought unlimited business opportunities and is driving a new wave of mobile economy! Following the vision of "digital country with innovative economy" announced by the Taiwanese government, the Ministry of Economy will invest NT\$250 million to build digital broadband application blocks. According to the plan, the government will provide guidance to 40 blocks by the end of 2020 (as of August 2019, 35 blocks have been built.)

The vision of "digital country with innovative economy" is also realized in aboriginal tribes in remote areas. The wireless Internet service, iTaiwan, which is available everywhere in urban areas, was a dream for aboriginal tribes in rural areas. However, the Council of Indigenous Peoples has implemented i-Tribe, wireless broadband for aboriginal areas, in aboriginal tribes around Taiwan since 2014. This service will be available to 300 tribes by the end of this year (2019), and the information communication in the tribes will be much smooth.

i-Tribe is the world's first outdoor free wireless broadband Internet service in aboriginal tribes built with national resources. For aboriginal tribes, i-Tribe is not only a highway that connects the aboriginal tribes to the broadband network but also the key that turned local innovation into reality. For example, through i-Tribe, the output value of May peaches in Fuxing District, Taoyuan City has jumped from NT\$5 million in 2016 to nearly NT\$100 million in 2018. Another example is Roselle and Formosa Lambsquarters from Jinfeng Township, Taitung County. Through Internet marketing, these agricultural products have attracted tourists to the countryside and created business opportunities for the surrounding areas. The Ministry of Health and Welfare also uses i-Tribe in obtaining medical records from the cloud system, increasing the successful reading rate of National Health Insurance cards from 20% to 98%.



▲ 國家通訊傳播委員會 (NCC) 代理主任委員陳耀祥指出，NCC 為滿足偏鄉居民對超高畫質影音內容傳輸、物聯網、智慧家庭、雲端等服務需求，並落實平衡城鄉數位差距的目標，積極持續推動相關政策。Yaw-Shyang Chen, Acting Chairperson of the NCC said that to meet the rural residents' needs for full HD video and audio transmission, Internet of Things, smart home, cloud and other services and to implement the goal of digital divide remediation, the NCC continues to promote relevant policies.

鄉數位差距的目標，國家通訊傳播委員會 (NCC) 持續推動相關政策，代理主任委員陳耀祥說明，主要包含固定網路服務、行動網路服務與防救災通訊平台建置等三大部分。

## 固定網路服務 數位資訊無死角

NCC 運用電信事業普及服務機制，使偏遠地區 12Mbps 寬頻上網平均涵蓋率達 98%，並以前瞻基礎設計畫特別預算，補助電信業者建置偏鄉通訊基礎設施，該計畫自 106 年迄今，已經完成建置 Gbps 等級寬頻服務到 48 個偏鄉，擴展

## To balance the digital divide, the NCC has focused on three major objects

As early as 2012, communication service has been designated as a human right by the United Nations. Communication technology and smart application have become a new force driving national development around the world. Taiwan is also moving forward towards the goal of "digital nation and smart Island." Regardless of public or private sectors, Taiwan has been actively promoting various digital infrastructure and digital application service to continue to remediate digital divide and provide equal digital opportunities to all regions, ethnic groups and industries.

To meet the rural residents' needs for full HD video and audio transmission, Internet of Things, smart home, cloud and other services and to implement the goal of digital divide remediation, the National Communications Commission (NCC) continues to promote relevant policies. The Acting Chairperson Yaw-Shyang Chen said that the focuses are landline network service, mobile network service and establishment of a communication platform for disaster prevention and relief.

Caption: Yaw-Shyang Chen, Acting Chairperson of the NCC said that to meet the rural residents' needs for full HD video and audio transmission, Internet of Things, smart home, cloud and other services and to implement the goal of digital divide remediation, the NCC continues to promote relevant policies.

## Landline network service for ubiquitous digital information

With prevalent telecommunication business and service mechanism, the NCC has achieved 98% of average coverage rate of 12Mbps broadband Internet access in remote areas, and subsidized telecom operators to construct telecommunication infrastructure in remote areas with the special budget from the forward-looking infrastructure program. The program has established the Gbps-level broadband service in 48 rural areas and extended 100 Mbps broadband service to 190 villages since 2017. It plans to implement the Gbps service in every remote area and cover each village and tribe in the rural areas with 100 Mbps service by the end of 2020 so that people in the

100 Mbps 等級寬頻服務到 190 個村 ( 里 ) ，計畫在 2020 年底前，達成 Gbps 等級服務到每一偏鄉、100 Mbps 等級服務範圍涵蓋每一偏鄉地區村里部落等目標，讓偏鄉地區民眾享有與都會地區品質接近的固網服務，滿足偏鄉居民對網路數位服務的需求。

此外，有線電視全面數位化後，更能夠充分利用纜線頻寬資源，除了提供第二條寬頻高速公路鼓勵行動及固網寬頻產業競合發展外，例如社區或中小企業寬頻上網及基地台銜接電路，也提供高畫質及 4K 服務等多元多樣化服務選擇。

## 行動網路服務 防救災通訊平台

在行動網路服務方面，為了鼓勵電信業者至偏鄉地區建設行動寬頻網路，提高 4G 網路服務涵蓋率，NCC 修訂「無線電頻率使用費收費標準」，凡是在總體偏遠地區高速基地臺的村里人口中，涵蓋率達到一定比例以上的電信業者，就能申請減收無線電頻率使用費。目前已經有三家電信業者 4G 網路服務的人口涵蓋率超過 96%，在偏遠地區觀光景點及偏鄉居民都能夠享有高品質的 4G 網路服務。

我國經常面臨地震、颱風等天災挑戰，通訊傳播基礎建設受損時有所聞，防救災通訊平台建置格外重要。歷年來災害期間，造成電信業者基地臺無法通訊的主要因為電力中斷。為了完備國內整體防救災行動通訊基礎建設，NCC 自 2009 年莫拉克風災迄今，持續在災害潛勢區、偏遠地區或離島等範圍，建置 209 臺定點式防救災行動通訊平臺，提升通訊基礎設施抗災性及備援能力，使當地民眾即使面臨災害時，仍然持續享有穩定及可靠的行動通訊服務，達成「路斷橋斷，通訊不斷」，提高整體防救災效率。

展望未來，陳耀祥強調，NCC 將持續布建寬頻網路基礎建設，並與各部會需求結合，藉著擴大寬頻接取涵蓋範圍，使寬頻服務深入各偏遠地區公共場域，涵蓋行政中心、學校、醫療院所及觀光

rural areas can enjoy the landline network service of the quality similar to their counterparts in urban areas and their needs for network digital service can be met.

Moreover, after cable TV is fully digitalized, it can fully utilize the cable bandwidth resources. In addition to providing the second broadband highway to encourage competition between mobile and landline broadband industries, such as broadband Internet and cell site connecting circuit for community or small and medium-sized enterprises (SMEs), it also offers a wide range of service options, including HD and 4K service.

## Mobile network service and telecommunication platform for disaster prevention and relief

In terms of mobile network service, to encourage telecommunications operators to construct mobile broadband network in rural areas and improve the coverage of 4G network service, the NCC has amended the Charge Standards of Utilization Fee of Radio Frequency. The telecommunications operators with a certain percentage of coverage in the rural areas with high-speed cell stations can apply for radio frequency utilization fee reduction. So far, three telecommunications operators have achieved 96% coverage in rural areas with their 4G service, allowing tourists and rural residents to enjoy 4G network services in remote sightseeing spots and rural areas.

Natural disasters, such as earthquakes and typhoons, are very common in Taiwan. Damage to telecommunication infrastructure occurs quite often. Therefore, it is particularly important to build a telecommunication platform for disaster prevention and relief. During the disasters over the years, the main reason for failure in telecommunications was power outages. To complete the overall communication infrastructure for disaster prevention and relief in Taiwan, the NCC has continued to build fixed-point mobile telecommunication platforms for disaster prevention and relief in disaster potential areas, rural areas and off-shore islands since 2009, after the strike of Typhoon Morakot, to improve the resilience and recovery ability of telecommunication infrastructure so that local people can continue to have stable and reliable mobile telecommunication service even when

景點等，開展在地數位应用能力，讓偏鄉居民也能享有高速寬頻服務，並利用高速網路從事創新經濟活動。

## 強化「數位平權」 國家發展重要政策

在數位發展中，有一個重要的概念是「數位平權」，新媒體《風傳媒》前副總編輯、世新大學通識中心助理教授沈超群認為，「數位平權的概念非常重要，就像父母、長者對於數位工具的使用並不熟悉，其實很多城鄉差距下的孩子，對於數位工具的使用也不理解，隨著時間慢慢成長，差距越來越大，這對國家發展是非常不利的。」

城鄉差距，過往或許表現在課外讀物、閱讀等層面，如今，隨著數位化的速度越來越快，數位落差成為偏鄉孩子的另一項挑戰。政府努力彌平這樣的差距，沈超群說，像是行政院規劃的「前瞻基礎建設—數位建設」，由教育部、內政部、經濟部共同提出「普及國民寬頻上網環境計畫」，重點在「打造公共數位資訊場域」、「營造友善新住民上網環境」及「普及中小企業數位應用」，這些作法是很重要的。

出身媒體的沈超群，以「媒體近用權」（media access）舉例，媒體近用權指在人人享有主張和發表意見的自由權利之下，能擁有「接近和使用媒體的權利」。其中包括被動且有限度的接近權，使人人具有答辯以及更正媒體的權利，除了被動，當然也有主動的使用權，主動製作節目或是建立自己的媒體。新聞媒體強調的「平衡報導」，就是媒體近用權的一部分。

但其實數位也有平等的「近用權」，沈超群表示，應該讓每一位公民擁有相等使用數位的權利，現在數位權利已經成為公民權的重要一環，這些都是要靠政府及民間共同推動，才能夠落實數位平權的發展。

disasters strike. So far, 209 fixed-point mobile telecommunication platforms for disaster prevention and relief have been built, and the overall disaster prevention and relief efficiency has been improved.

Looking forward to the future, Yaw-Shyang Chen said that NCC will continue to build broadband network infrastructure and will integrate it with the needs of various ministries to expand the broadband coverage so that the broadband service can be extended to public areas in the remote areas. The service will cover administrative centers, schools, medical institutions and sightseeing spots. With the development of local digital application ability, rural residents can also enjoy high-speed broadband service and use high-speed Internet to engage in innovative economic activities.

## Strengthening "Digital Equity" is an important national development policy

An important concept in digital development is "Digital Equity." Chao-Chun Shen, former deputy editor of Storm Media Group (a new medium) and Assistant Professor of Shih Hsin University Center for General Education said, "The concept of Digital Equity is very important. Many old parents and the elderly are not familiar with digital tools, so do children in rural areas. They do not know how to use digital tools, and, as time goes by, the gap is getting bigger and bigger. This is detrimental to national development.

The urban-rural gap used to be reflected in extracurricular reading materials and reading. However, as digitalization speeds up, digital divide has become another challenge for rural children. The government is working hard to remediate the divide. Chao-Chun Shen said that, like the "forward-looking infrastructure-digital construction" planned by the Executive Yuan, the "national broadband Internet prevalence program" proposed by the Ministry of Education, Ministry of the Interior and Ministry of Economic Affairs focuses on "creating public digital information fields", "creating immigrant-friendly Internet environment" and "popularizing digital application of SMEs." These projects are very important.



▲ 世新大學通識中心助理教授沈超群表示，現在數位權利已經成為公民權的重要一環。Chao-Chun Shen, Assistant professor of Shih Hsin University Center for General Education said that digital right has become an important part of civil right.

## 偏鄉社區拚數位 e 化啟動改變

另一個啟動實現數位平權的案例，發生在東台灣的偏鄉社區！台東建和書屋的陳爸陳俊朗的故事已為大眾所熟知，其實，數位機會中心才是點燃這股熱情的火種與起點！2005年陳俊朗擔任台東市建和社區發展協會總幹事，當時位在建和國小內的數位機會中心成立，是教育部電算中心在全國所設立的眾數位機會中心之一，他成為首批接受培訓與學習的電腦志工，也認識了擔任講師的開拓文教基金會金惠雯，進而牽起了開拓與書屋的緣分。

沒多久，籌建一間民間電腦教室、創立一個兼具社區圖書館與家暴庇護所的「建和書屋」，成為陳俊朗的重心，這樣的構想在2006年逐步成形

Chao-Chun Shen, who worked in the media industry, took "media access" as an example. Media access refers to the right to approach and access media under the premise that that everyone can express his/her opinion freely. The access includes passive and limited access, which gives people the right to reply to and correct media. In addition to passive access, there is active access, such as voluntary production of a program or establishment of one's own medium. The "balanced report" emphasized by the news media is part of media access.

In fact, equal access also applies to a digital society. Chao-Chun Shen said that each citizen shall have the equal right to use digital technology. Digital right has become an important part of citizenship. Both the government and people are required to implement Digital Equity.

### Digitalization of rural community and changes driven by electronization

Another case of realization of Digital Equity happened in a rural community in Eastern Taiwan. The establishment of Jianhe Bookstore founded by Jun-Lang Chen, also known as Papa Chen, is a well-known story. In fact, the DOC is the inspiration and starting point of this story. Jun-Lang Chen was the chairman of Jianhe Community Development Association in Taitung City in 2005. The DOC was established in Jianhe Elementary School, and was one of the many DOCs established in Taiwan by the Computer Center of the Ministry of Education. Chen was the first batch of volunteers receiving computer training. That was how he met Hui-Wen Jin of the Frontier Foundation, the lecturer at that time, developed the connection between the Foundation and the Bookstore.

Before long, establishing a private computer classroom and Jianhe Bookstore, a community library and shelter for people suffering from domestic violence became the focus of Jun-Lang Chen. The idea was gradually turned into a reality in 2006. Thanks to the assistance and call of the Frontier Foundation, books and second-hand computers began to flow into the Jianhe community.

At the beginning, Chen, a computer volunteer, promoted the service by himself. He visited people at their homes to invite them to the computer



▲ 陳爸的努力，為臺東偏鄉牽起了一條數位平權的路。(攝影 / 陳應欽) Papa Chen's hard work raised awareness of Digital Equity in rural areas in Taitung. (Photo by Yingqin Chen)

落實。透過開拓文教基金會的協助與號召，民間贈書、二手中古電腦開始湧入建和社區。

一開始，陳俊朗必須身兼電腦志工與推廣服務，總是親自跑到社區民眾家中，力邀大家來上電腦課，還曾經有造訪十多次才成功的案例，這樣的熱情感染了台東大知本地區五個里的居民，居民陸續接受電腦課程的培訓。

在一個租借的場地中，備有 15 台二手電腦，而 20 位電腦志工更是靈魂人物，協助社區居民學習電腦操作，就連許多銀髮長輩，也加入這一波數位化的腳步，數位平權與機會在此萌芽、落實，展現無限可能。

建和社區居民的數位成長顯而易見，幾個月前才初次接觸電腦、開始學習電腦操作的鄉親，沒多久就已經可以自行使用電腦，甚至有能力製作宣傳單、生日卡片、標會單…等實用工具，多元地應用在日常事務中。孩子們則會上網連線、查詢上課所需的

class. Sometimes he even had to visit these people for more than ten times to successfully persuade them to come to the class. His passion moved and inspired the residents in five villages in the great Jihben area in Taichung. The residents gradually took the computer class and received training.

The rented venue had 15 second-hand computers, and the 20 computer volunteers, who assisted the community residents in learning computer operation, were the life and souls of the community. Many elders also joined the wave of digitalization. Digital Equity and opportunity started to sprout and grow, showing endless possibilities.

The digital growth of Jianhe community residents is obvious. People learning computer for the first time learned the basic operation of computers after a few months, and can even make fliers, birthday cards and loan bills and apply their computer skills in various daily affairs. Children learned how to get online and search for information needed in class aside from their favorite computer games.

資料，當然也不會錯過最愛的電腦遊戲！

曾經沒報紙、沒雜誌、不買書、沒電腦的偏鄉建和社區，飄起書香、鍵盤聲四起，雖然陳爸於今年7月因心肌梗塞離世，但他創建的e化天地已經在這個溫泉鄉中點燃了e化火種，改變正在持續當中！

因應數位應用的浪潮，數位機會、數位平權已經成為全球各國政府關切的議題，透過寬頻網路的布建，透過偏鄉的數位機會中心運作，提供每一位國民公平的數位機會。展望未來，超寬頻網路將進入人們的生活中，科技全面應用於交通、醫療、教育、娛樂、生活等領域，無人車到處趴趴走，智慧家庭一指搞定等都將成為日常，也帶動人類文明與創新不斷前行。

Jianhe community used to have no newspapers, magazines, books and computers, but now it is full of books and sound of keyboards. Although Papa Chen died of myocardial infarction in July this year, he has changed this hot spring town with electronization, and such change is continuing.

In response to the wave of digital applications, digital opportunities and Digital Equity have become a topic of discussion of governments around the world. Through the deployment of broadband network and the operation of DOCs in rural areas, every citizen is provided with fair digital opportunities. Looking into the future, ultra-wideband will enter our lives, and technology will be widely used in traffic, medical care, education, entertainment, life and other fields. Driverless cars will be everywhere and smart homes will be super common. Digitalization will drive human civilization and innovation forward.



▲ 透過數位平權，即使在偏鄉一樣都可以透過數位科技與全世界接軌。Through digital equity, people can still connect to the whole world via digital technology even when they are in rural areas.

# 飛亞旅行社 助返鄉青年上雲端 秀出臺灣觀光新亮點

MyTaiwanTour Helps Youngsters Return Homes by  
Showcasing New Tourist Spots in Taiwan



2019 年臺灣觀光客旅破新高，可望突破 1,200 萬人次，比去年多出一百萬。越來越多外國人發現「臺灣」是個適宜旅遊的好地方。飛亞旅行社看準臺灣的觀光潛力，協助地方返鄉青年，在傳統文化中翻出創新旅遊體驗，用數位行銷臺灣，讓更多人看見臺灣在地的美好。

The year 2019 is expected to see a record high number of inbound tourists to Taiwan, more than 12 million and higher by 1 million from 2018. More and more foreigners realize that Taiwan is a good destination for sightseeing. Leveraging Taiwan's potential in tourism, MyTaiwanTour assists young people to return to their hometowns by innovating traveling with traditions and cultures. The digital marketing brings the beauty of Taiwan to a larger audience.

**國**外年輕網紅頻頻對臺灣示愛，顯見臺灣的「美好」逐漸在國際上打開能見度。飛亞旅行社執行長吳昭輝 2013 年中創設 MyTaiwanTour，深耕入境臺灣國外旅客。他觀察外國人訪臺第一印象：「他們多數讚美臺灣是亞洲未發掘的寶藏（hidden treasure in Asia）。」歐美旅客對臺灣科技島的印象，往往在訪臺後大幅翻轉。高水準的生活品質、便利的生活，以及良好的治安，讓許多歐美旅客給予高度評價。

## 臺灣觀光資源具優勢 創新行銷留住觀光客

臺灣在觀光資源上深具優勢，但是旅遊上卻老是推不動。「歐美的回頭客真的不多，他們來了以後，並沒有想一來再來。」初見臺灣的驚艷，卻無法留住觀光客腳步，這其中到底出了什麼問題？

吳昭輝認為，這顯見臺灣在旅遊深度的展現，以及整體包裝形象上，仍有改善空間。

五年前 MyTaiwanTour 成立之初，就以數位行銷手法切入國外市場，去年飛亞旅行社獲得日本日本三普旅遊集團 150 萬美元策略性投資，更加強化研發數位化系統，包括研發客製化行程、導遊媒合派遣以及外部 ERP，以更為新創的數位工具來開發旅遊商品。

不止如此，吳昭輝用數位新創的技術，與臺灣在地特色社區或返鄉青年結合，讓原本曝光率不高的小鎮風情、近乎失傳的在地文化，以及返鄉年輕人重振社區的用心，能夠被世界看見。

## 獨特旅遊商品 帶來不一樣顧客體驗

吳昭輝把筆電打開，螢幕滑過一幀幀美麗的照片：「步步驚心 太魯閣這樣玩超刺激」、「石碇自然

**Y**oung KOL (key opinion leaders) overseas have been winking at Taiwan, an indication of Taiwan's growing visibility in the international community. CEO Michael Wu founded MyTaiwanTour in 2013, focusing on inbound tourists. He observed the first impression Taiwan makes on visitors. "Most of them say that Taiwan is a hidden treasure in Asia." Travelers from Europe and the U.S. usually have a very different idea about Taiwan as a tech island after they spend some time here. Many of them think highly of the life quality, amenities, and low crime rates in Taiwan.

## Rich resources in tourism and innovative marketing to retain tourists in Taiwan

Despite great resources, Taiwan's tourism has been underwhelming. "Very few travelers from Europe and the U.S. want to visit Taiwan again." The great first impression does not convert to repeated customers. What is wrong?

Michael Wu believes that there is room for improvement in terms of depth and packaging of tourism in Taiwan.

When MyTaiwanTour started business five years ago, it initiated digital marketing overseas. In 2018, the company received \$1.5 million from Sanpu Travel, a strategic investor from Japan. This provides additional resources for R&D of digital systems and travel products (including bespoke itineraries, tour guide matching and dispatching, external EPR).

Meanwhile, Michael Wu uses digital innovations to combine local communities with special characteristics and the young people returning to hometowns. This brings into spotlight to the world the beauty of small towns previously little heard of, the local culture once almost gone, and the ambition of youngsters seeking to revive their own communities.

## Unique travel products to create different experiences

Michael Wu opened his laptop and showed many beautiful photos on the screen. "Thrills and excitement at every step in Taroko", "Shiding, a short



▲ 外國遊客寫下對平溪的感動。Foreign tourists wrote about how they were touched by Pingxi.

古早手作小旅行」、「靜心有機茶園，青花瓷杯自己繪」、「臺灣的循環經濟，玻璃、捕魚樣樣來」、「百年三合院古厝，為善積德美傳承」，創新且風格別具的行程名稱、深度的文化探訪，跳脫傳統制式的旅遊行程，贏來獨一無二的顧客體驗。

「從去年我們開始做永續觀光的產品。」目標客群從歐美觀光客，延伸投入臺灣企業商務旅遊。MyTaiwanTour 與在地店家，以及深具熱忱、創意的返鄉青年合作，讓地方創生與社區營造後更美好的臺灣，有更多曝光的機會。

讓旅客與在地相遇，深入挖掘更多在地的故事，瞭解背後的歷史傳承，顧客才會與臺灣這塊土地產生更深的情感連結，而不會淪為一次性觀光，進而真正帶動地方成長。例如平溪天燈看似知名度很高，但人們所不知道的是平溪人口流失超乎想像，可說瀕臨「滅村」，之所以有如此的落差，就是缺乏以「永續經營」的角度來思考觀光的包裝與發展。

在 MyTaiwanTour 主辦的「山城天燈祭」中，與文化銀行合作採用環保天燈，天燈在空中就會燒盡，不會危害環境。天燈象徵臺灣早期山城生活的縮影，過去礦工到遠地挖礦，利用放天燈告知家人平安抵家；山匪肆虐械鬥時，小村莊婦孺躲進山裡，看見天燈冉冉昇天，就知道可以平安返家。

## 數位新創成地方旅行新後盾

在這些小清新風格旅行的背後，有更為強大的數位工具做後盾。飛亞旅行社研發的客製化系統，

trip for good-and-old handicrafts", "Enjoy peace in the organic tea garden, paint your own blue-and-white porcelain mug", "Circular economy in Taiwan – glasscraft and fishing", "A-century-old three-section compound, a heritage of virtues and beauty". All the package names are innovative, stylish, cultured and in depth. It is a break from the stereotype itineraries. The purpose is to create unique experience for customers.

"In 2018, we entered the market for sustainable tourism." The target customers are expanded from inbound tourists from Europe and the U.S. into corporate travelers in Taiwan. MyTaiwanTour work with local shops and enthusiastic and creative young people who return to their hometowns. Placemaking and community building make Taiwan a better place with more opportunities for exposure.

Only by bringing travelers into a close contact with the land and going deep into local stories, the history and traditional will it create an emotional bond with Taiwan. Otherwise tourists will only visit here once, and tourism will not be able to drive local growth. For example, the sky lanterns in Pingxi are famous. What is little known is that Pingxi is losing people fast and the village is on the verge of shutting down. The misery of this tourist spot is a result of packaging and development not thinking about sustainable business.

The Sky Lantern Festival at the Mountain Town organized by MyTaiwanTour uses environmentally friendly lanterns by working with Bank of Culture. These lanterns burn out in the skies, without damaging the environment. In the early days of the mountain towns in Taiwan, miners went to work afar. They used sky lanterns that they would be home safely. When gangsters came to loot, women and children hid in the mountains. They would know it was safe to return homes at the sight of lanterns rising into the skies.

## Digital innovations as a new driver for local tourism

Behind these cultured itineraries are powerful digital tools. MyTaiwanTour develops a customization system with modularized designs. After speaking with clients, travel planners quickly move modules for food & beverages, transportation around at the backend, in order to efficiently assemble the dream



▲ 吳昭輝帶領飛亞旅行社，用數位模組打造客製化服務遊程。Michael Wu leads the team in MyTaiwanTour to design custom trips with digital modules

採模組化後臺，行程規劃師與客戶洽談後，依照客戶需求在後臺可快速拖移餐飲、車輛等模組，有效率地拼裝組成成旅客理想的行程。成交出團的行程會成為「有效的模組」，累積出的數據，經由分析，就可得知不同國籍旅客的旅遊偏好。例如美國遊客可能喜歡爬山，歐洲人可能特別喜歡前往花東地區觀光等，進而能優化旅遊商品的組合。

這幾年力推臺灣旅遊到全世界，吳昭輝深有所感。「臺灣總是在複製別人的祭典與節慶，比如聖誕節、情人節、耶誕市集，但是這些都不能代表臺灣。」當越來越多返鄉年輕人回到自己的故鄉，渴望透過從事觀光產業帶動地方發展，卻苦於沒有那麼多的資源與資金投入數位行銷，而飛亞的 MyTaiwanTour，正好能幫助輔助這一部分，成為返鄉青年的數位行銷後盾。

「現在很多臺灣景點已經變成網美打卡景點，很容易被媒體洗一波，然後遺忘了在地背後的許多故事。」吳昭輝認為，旅行最終的目的，不是在臉書或 Instagram 上打卡分享，而是思考這個景點能夠為這趟旅行帶來什麼意義。飛亞旅行社運用數位行銷的新創手法重新包裝旅遊商品，賦予景點全新的價值，串聯臺灣與世界，讓遊客更能深度發掘臺灣的美好。

trips for customers. The agendas with successful tour trips become "efficient modules" and the big data accumulated can be analyzed for insight into preferences of travelers of different nationalities. For instance, travelers from the U.S. may enjoy mountain climbing. Europeans are particularly interested in sightseeing in Hualien and Taitung. This can further optimize the packaged tours.

Michael Wu has learned a great lesson from years of efforts in promoting Taiwan tourism to the rest of the world. "Taiwan is always copying other people's festivals and celebrations such as Christmas, Valentine's Day, Christmas market, etc. However, none of these represents Taiwan." Meanwhile, there is an increasing number of young people returning to hometowns and aspiring to use tourism to drive local developments, but without resources and capital for digital marketing. MyTaiwanTour fills in this void by supporting these returnees with digital marketing.

"In fact, many tourist spots in Taiwan are popular check-in destinations for KOLs. They are easily washed up on social media and many stories on the ground get lost." Michael Wu believes that the ultimate purpose of traveling is not about checking in or sharing on Facebook or Instagram. It should be about the meanings this tourist spot can bring to the trip. MyTaiwanTour uses digital marketing as an innovative technique to repack travel products and creates new value to tourist destinations, in order to connect Taiwan with the rest of the world and immerse travelers with the beauty of Taiwan.

# 若水國際 引領身障就業跨入 AI 智能 為身障開創藍海希望

Flow Inc. Brings Artificial Intelligence Jobs to the Disabled People  
Sparkle Up New Hope for the Challenged



讓身障就業人力投入高科技產業，甚至踏入 AI 人工智能的創新，聽起來不可思議，但若水國際做到了。從創投社企，走向服務身障者就業的社企，若水不僅成功轉型，更為弱勢突破框架，在雲端科技時代，開創破局而出的人生新境。

Bringing the physically disabled into the workforce of the high-tech industry and even the innovation of artificial intelligence may sound incredible, but Flow Inc. has done it. Started as a social enterprise, Flow Inc. has staged a successful transformation by becoming an employment service provider for the challenged. This has helped the disadvantaged to break the mould and create a new stage in life in the era of Cloud technology.

**採**訪這天，是若水國際在八德路辦公室的最後一天。這是若水第四次搬家，無障礙環境、又有創新任務的組織，對即將入住的新居深有所期待。由「趨勢科技」創辦人張明正創辦，十二年來，若水從台灣第一個社會企業領域的育成顧問團隊，到轉型為身障就業提出創新解方，一路走來就像數位變革的不斷更新，而唯一不變的核心是對社會議題的關注。

This interview was conducted on the last day when Flow Inc. was at its offices in Bade Road, Taipei. This is the fourth time that Flow Inc. relocates itself. Tasked with innovative missions, the company is looking forward to its new home with step-free access. Founded by Steven Chang, the founder of Trend Micro Inc., Flow Inc. was the first incubator for social enterprises in Taiwan and later became an employment solution provider for the physically disabled. The company has evolved over time, in the era of digital transformation. The only constant is its dedication to social issues.



▲ 若水團隊打破弱勢就業框架，在科技產業為身障者開創一片天。Flow Inc. breaks the old model for employment of the disabled by creating new jobs in the tech industry

## 不可能的任務： 讓身障者任職科技產業

回顧若水十二年來的組織變化，若水執行長陳潔如認為可分為三個階段。第一階段即 2007 至 2012 年的五年開創期。「當時若水以投資、育成社企為經營目標，不過當時大家對社會企業的概念很模糊，許多提案的型態，一是傳統公益，一是傳統企業模式，跟預期的社企創業很有距離。」陳潔如說，包括若水團隊背景也多是商業出身，並不了解社會議題的切角，於是，2012 年若水反求諸己，從關注議題需求，發現身障就業的缺口。當時，全台超過 115 萬身障者的勞動參與率僅 19% 的問題引起若水的關注，並決定結合雲端科技發展，創造身障就業機會。

長期在身障領域蹲點、訪查，陳潔如分析，以政府現行方案，包括企業每 60 人必須聘僱 1 位身障者、支援性就業的庇護工廠，以及其他包括身障按摩技能就業單位等，看似對不同狀況的身障者都有保障，但其中隱性的數字：許多身障者在一般企業與庇護中心之間擺盪，以約聘、派遣的身份，每年都會被另一位身障者取代，通常平均七年才有較穩定的工作狀態，成為邊緣流浪者，整體就業生態缺乏結構性的解方。

「化解身障就業的 M 型化問題，我們不只是給魚

## Mission Impossible – Creating Jobs in the Tech Industry for People with Disabilities

Looking back Flow Inc.'s twelve-year history, CEO Sabrina Chen believes that it can be divided into three stages. The first stage is the five-year period as a start up from 2007 to 2012. "At that time, Flow Inc. was an investor and incubator of social enterprises. However, people did not have a clear idea what social enterprises are. Many proposals were either traditional organizations for social welfare or conventional businesses. They were not what was expected of social enterprises", said Sabrina Chen. Back then the majority of Flow Inc.'s management was from business backgrounds and did not know how to tackle social issues. In 2012, Flow Inc. decided to become a social enterprise itself and identified that the employment for the disabled was a big problem. In Taiwan, the number of the disabled people exceeded 1.15 million and their labour participation rate was only 19%. This was the reason why Flow Inc. decided to create jobs for them by leveraging the cloud technology.

After hours of onsite observations and interviews, Sabrina found that the government stipulates that companies must hire one physically disabled for every 60 employees. Sheltered workshops and other employers such as massage parlors seem to provide some opportunities to people with various disabilities. However, there are more to it than these numbers. Many disabled people go back and forth between corporates and sheltered workshops as temps or contractors. Each of them is replaced by another disabled person every year. On average, it



▲ 若水不僅引介身障者就業，更在公司內部打造合適的職場環境。Flow Inc. introduces jobs to the disabled and creates friendly work environments.

吃或是給釣竿，而是開創一個新漁場！」陳潔如認為，除了按摩、洗車、加油、服務業這些其他弱勢也高度競爭職缺的環境，一定要開發新的就業領域，才能創造新的機會，「科技產業」正是若水國際的優勢主場。

## BIM 的模組解構， 沒有經驗也能分工勝任

2012 年進入轉型期，若水進軍雲端產業，將科技產業重新解構、再定義，發掘「高勞力密集」的可能，這是若水成立 BIM (Building Information Modeling) 技術服務團隊的思維起點。所謂 BIM，是以 3D 模式的視覺化、參數資料，取代傳統圖紙模式；就是在建築物正式施工前，先用 AR、VR、IoT 等技術電腦模擬，減少設計和施工的錯誤。

運作 BIM 的關鍵，在於讓「技術密集」轉化為「高勞力密集」，運用工具讓流程創新，加上教育訓練，真正讓人力取代技術。簡單說，為了讓完全沒有經驗的身障者具備 BIM 專業，把一個案子切割成多道工序、宛如生產線，專業分工，讓身障者也能勝任。2013 年 BIM 團隊開始接案，包括參與土城長庚醫院、中華電信資料中心工程應用等，已進入獲利穩定期。

2017 年若水的新目標是讓身障者能居家工作。陳潔如認為，無障礙環境對身障者來說非常重要，免除舟車往返的居家工作對身障就業更為友善。看準 AI 對數據處理的龐大需求，若水以扎實的教育訓練，培育超過百位身障人士成為可在家接案的數據標註師。

takes them seven years to stabilize their employment situation. In sum, they are marginalized in the job market and there are no structural solutions for that.

"To resolve the M-shape problem for the employment of the disabled people, we do not just give them fish or teach them fishing. Rather, it is about creating a new fishing ground." The job market for masseurs/masseuses, car washers, gas station staff, and other roles in the service industry are already very crowded for the disadvantaged. Sabrina argues that it is necessary to create new jobs and Flow Inc. believes that it has an edge for opportunities in the tech industry.

## BIM (Building Information Modelling) Decomposes Tasks That Even the Unexperienced Can Play a Part

In 2012, Flow Inc. entered the cloud business by deconstructing and redefining technology and exploring the possibility of labor intensity. This is how it started as a BIM (Building Information Modeling) service provider. BIM is the visualization of 3D models with parameters replacing traditional paper designs. It is for simulations with AR, VR and IoT technology before the commencement of construction in order to reduce errors in design and implementation.

Flow Inc.'s secret recipe is to transform the technology intensity into labor intensity. They deploy tools to innovate the workflows and implement education programs to replace technology with manpower. Simply put, Flow Inc. breaks down a project into multiple steps, as if different tasks in a production line. In this way, a challenged person with zero experience can be trained for certain tasks.

In 2013, the BIM team started to provide services by participating projects such as Chang Gung Memorial Hospital in Tucheng and Chunghwa Telecom's data centers. The company enjoys stable profits currently.

In 2017, Flow Inc.'s new goal was to make it possible for the disabled employees to work from home. Sabrina indicates that step-free access is very important for the challenged. Working from home saves the hassle of commuting and homes are a more friendly environment for them. With an eye to



▲ 透過完整的培育訓練，讓身障者也能投入 AI 數據處理服務產業。With comprehensive training, the disabled people can work in the AI data processing industry.

「讓身障者有機會投入職場是第一步」若水除了提供職訓，也同時幫忙找科技輔具、iPad 應用 App，口語錄製專業名詞，讓不同障別和罕病的身障者可以從一開始要花 5 倍工時，逐漸降為 1.5 倍，把 BIM 經驗成功轉型為 AI 人工智能，讓身障者就業的可能再升級擴大。

## AI 數據標註師，擴大障別服務、更能居家工作

不只為企業引介身障就業，現在若水身障同仁也有六成。陳潔如說，若水目前協助的身障障別已涵蓋 85%，包括含亞斯柏格、脊髓損傷、腦性麻痺、先天全骨不全、罕見疾病，未來希望搭配新設計的教育訓練，將重度視障、智障等新障別也納入服務範圍。「身障者適合哪些工項、讓他們被放在對的崗位上，做好正確的派工，就能達到企業、人力、公益多贏的可能。」

回首來時路，若水不忘初心，結合科技與創新，為身障者翻轉人生，也為商業模式開創新格局。陳潔如表示，未來將推動身障工作者職涯升級，三年成為資深建模師並能帶領團隊；同時，推廣身障與非身障者的職場跨域搭配，在更多高商業含量的組織內共融合作，深耕台灣顧客。而若水的台灣社企經驗，2019 年 8 月開始在日本分公司複製推展，包括鷹眼計畫、智慧零售、精準醫療等需要應用電腦視覺的領域，為身障職涯建構平權、永續的新紀元。

the huge demand for AI data processing, Flow Inc. has been offering solid training programs to over 100 challenged people who are now qualified data annotators working from home.

"The first step is to create jobs for the challenged." On top of vocational training, Flow Inc. is also on the lookout for technological tools, apps on iPad and recordings of professional jargons. This has gradually shortened the number of working hours required for those with different disabilities and rare diseases from five times to 1.5 times. The goal is to repeat the success in BIM in the domain of artificial intelligence in order to create more jobs for the challenged.

## AI data annotator jobs to people with different disabilities working from home

Flow Inc. serves as an employment agent for the disabled and 60% of its own employees are physically challenged. Sabrina said the disabled people Flow Inc. has extended help cover 85% of different disabilities, including Asperger syndrome, spinal cord injuries, cerebral palsy, osteogenesis imperfecta and other rare diseases. It is hoped that more education programs are designed to help those with severe visual impairment and intellectual disabilities. "The key is to put the challenged people on the right jobs. Appropriate assignments can achieve win-win-win for corporates, individuals and the society."

Flow Inc. has always remembered where it comes from in its journey to date. By using technology and innovation, the company has changed the lives of many disabled people and opened new business models. Sabrina indicated that Flow Inc. will promote career enhancements for the challenged by training senior modelers with three years of experience to be team leaders. Meanwhile, the company is encouraging cooperation between ordinary and disabled people in different domains and for more commercial projects in different organizations in Taiwan. Meanwhile, Flow Inc. is duplicating its experience as a social enterprise in Japan starting in August 2019 by embarking on machine vision projects such as Eagle Eye, smart retail and precision medicine. The vision is to create a sustainable and equal playing field for the employment of disabled people.

# 中原資管結合專業與愛心 以企業營運的幸福任務

Combination of Professionalism and Love for Companies to Deliver Happiness, by Department of Information Management, Chung Yuan Christian University

這一堂「企業概論」很不一樣。不只是解釋名詞、熟背理論，突破既定框架下的答案，中原大學資管系「企業概論」重視做中學，讓學生親身體驗真實的企業實境，不僅幫助非營利組織做公益行銷，同時遠赴海外擔任志工團，為國際數位落差盡心力，創造無限可能的共好效益。

This class on Business Essentials is nothing usual. It is more than just explaining jargons and memorizing theories. Rather, it requires thinking outside the box. Department of Information Management, Chung Yuan Christian University emphasizes learning by doing and asks students to experience the real-life scenarios. They are required to cause-related marketing for non-profit organizations and travel overseas working as volunteer workers. They seek to create mutual benefits with unlimited possibilities and do their parts to eliminate digital divide in other parts of the world.



**說**起中原大學資訊管理學系投入公益行銷的歷史，其來有自。2004年為拉拉山水蜜桃果農以網路行銷創造佳績，以及後來為新竹五峰鄉白蘭部落做觀光行銷，資管系師生以專業所學，為農友、部落帶來超乎預期的經濟效益，更為自己課堂所學做了最佳驗證。中原策略長暨資管系教授吳肇銘表示，中原大學注重「全人教育」，期許每一位學生身心靈健全發展，以智慧善用科技與人文的專業知識，造福人群；資管系

There is a story behind the beginning of cause-related marketing efforts from Department of Information Management, Chung Yuan Christian University. In 2004, they generated good sales online for the peach farmers in Lala Mount. Later they promoted tourism for the R'uyan Tribe in Wufeng Township, Hsinchu. The professors and students from Department of Information Management created economic benefits that exceed the expectation of farmers and tribes and validate their knowledge and professionalism developed in the classroom. Professor Chao-Ming Wu as the University's Chief

以公益行銷體現校風理念，「對社會付出，就像是中原的 DNA。」

## 應用數位工具， 為公益找到新商機

2017 年，借調公部門服務的吳肇銘回到中原任教，有感「高學歷不等於能力保證、就業的保障」的社會現況，把「學用合一」的觀念落實在資管系大一必修課「企業概論」。突破傳統授課教學，以「做中學」、「問題導向學習」的學習方式，讓學生從實境與實作，了解自己不足，學習溝通、解決困境。「許多公益團體面臨銷售營運的困境，剛好讓學生有機會實踐數位服務，應用數位工具來銷售、做生意，為產品找到新商機。」

三年來，中原大學資管系學生與多個公益團體合作，協助銷售。像是合作邁入第三年的普仁青年關懷基金會，賣的是與微熱山丘聯名的天使蛋糕；臺東「孩子的書屋」的黑孩子咖啡濾掛包、臺灣肯納自閉症基金會的手工皂等，都是中原大學師生結合專業與愛心的公益行銷案例。然而，如何逆轉「賣不好的商品」成為「熱銷人氣王」，對大一生來說可是備感考驗。

## 校園試吃、跑訪客群， 天使蛋糕銷售逆轉

「天使蛋糕的高單價，還有不夠了解公益單位、解說價值，一開始真的讓我們覺得好難賣！」現在已是資管系二年級的彭冠慈說，天使蛋糕的價位學生不容易接受，必須要有更多溝通。在校園辦試吃，讓產品說話、也有更多機會接觸顧客說故事，「我們還把學校所有行政處室都跑一遍，和目標顧客的師長教職員推廣。」團隊合作的賣力集氣，原訂 60 盒天使蛋糕的目標，最後創下 80 盒的佳績，銷售額近兩萬元，成為幫助普仁基金會弱勢青年的善款。「這次的課程，讓我學習到必須深刻了解商品才能說出好故事，再搭配行銷技巧、發掘顧客需求，就能讓銷售動起來！」

資管系四年級彭筠惠當年則是參與大崗國中的原住民舞蹈社募款。筠惠說，從了解原民舞蹈

Strategist indicated that Chung Yuan Christian University emphasizes the importance of sound development of the body, the mind and the soul of every student. Education is about how to use technology wisely and utilize professional knowledge in humanity for the benefit of people. Department of Information Management's efforts in cause-related marketing is putting the university's philosophy into practice. "Giving back to the society is in the DNA of Chung Yuan Christian University."

## Application of digital tools to create new business opportunities for the greater cause

In 2017, Professor Wu returned to Chung Yuan Christian University as a secondment from his post in the government agency. Given that higher education is not a guarantee for capability or employability, Professor Wu makes sure that practice and theory go together in the required module for freshmen "Business Essentials". In contrast with the traditional lectures, he encourages students to learn by doing and solving problems. By practicing what they have learned in real life, students learn how to communicate and resolve issues and understand where they should make improvements. "Many public interest groups experience difficulties in sales and operations. This presents an opportunity for students to provide digital services, by promoting business with digital tools and identifying new markets for products."

Over the past three years, the students from Department of Information Management have been working with many public interest groups by promoting their products. For example, Puren Youth Care Foundation into its third year was selling Angel Cakes made by SunnyHills. Other marketing projects are "Black Children" drip bag coffee from Kids' Bookhouse in Taitung and handmade soap from Kanner Foundation of Taiwan. These are all success stories of cause-related marketing by the teachers and students in Chung Yuan Christian University. In fact, how to turn around poor sellers is a big challenge for freshmen.

## Rising sales of Angel Cakes after tasting events in the campus and visits to customers

"In the beginning, we found it difficult to sell angel cakes given its high price tags and our lack of understanding about the value of public interest groups," said Ariel Peng, a sophomore in Department of Information Management. Students found angel cakes too expensive, so more communication



▲ 吳肇銘教授帶領學生運用專業知能，為社會服務。Professor Chao-Ming Wu leads students to use their professional knowhow to do their parts for the society.

的傳統文化到拍攝紀錄片、利用 Youtube、Facebook 行銷，再打入百貨通路播放，讓更多人了解原民舞蹈的美，積極保留傳統、不被遺忘。「很多看過舞蹈的民眾寫了小卡片，對原民孩子是很棒的鼓勵，讓他們的努力被看見，也讓文化被認同、被肯定。」

「所謂專業，不是知道就能做得到。在商品行銷的過程，需要更多的理解、溝通，學生會遭遇困擾，但也會因此成長。」吳肇銘告訴學生，「生意難做」很正常，學習翻轉挫折的勇敢，懂得察言觀色，絕對有助歷練。而今年近 70 位學生投入一學期的努力，為 5 個單位賺進超過 10 萬 7 千元的愛心收入，見證了公益與數位學習的共好雙贏。

## 海外志工團，打造數位環境、教學相長

而這份數位公益的熱力，還要出走海外，讓愛發揮得更大更遠。吳肇銘表示，多年前中原大學即參與政府數位機會中心的國際志工的工作。今

was required. Tasting events were organized in the campus to let the product do the talking. This creates opportunities to reach out to customers. "We also toured all the administrative offices in the university and tried to sell cakes to teachers and faculty members." The team worked together and sold 80 boxes of angel cakes, exceeding the target for 60 boxes, and generated a revenue close to NT\$20,000 for Puren Youth Care Foundation to help the disadvantaged young people. "This experience made me realize that products have to tell a good story. This combined with marketing techniques and discovery of customers' needs can create good sales."

Jun-hui Peng, currently in the fourth year, participated in the fund-raising campaign for the indigenous dancing club of Da Gang Junior High School. The process started with the understanding of the culture and tradition of indigenous people, the production of a documentary and marketing via Youtube and Facebook and department stores. The purpose was to make more people able to appreciate the beauty of the indigenous dance and the preservation of traditions. "Many people wrote notes to young children from the tribe. It was great encouragement and acknowledgement of their culture and efforts."

"Knowing something does not mean you can do something." Understanding and communication are required for product marketing. Students grow when they encounter difficulties." Professor Wu told students that doing business is usually not easy. It will be a great lesson if they learn how to deal with people and setbacks. Nearly 70 students spend a semester generating NT\$107,000 in revenue for five organizations. This creates a win-win for the greater cause and for their digital learning.

## Teaching and learning by working as volunteers to create digital environments overseas

The contribution to digital public interests reaches beyond the borders, far and wide. Professor Wu said that Chung Yuan Christian University was involved in international volunteering years ago by working with digital opportunity centres. With the support from ASUS and the Institute for Information Industry, Asus + CYCU Smart Ark Digital Learning Program was formed with 11 students. They went to University of Southern Mindanao, installed 40 recycled computers donated by ASUS and set up the network there. They also established the first Kabacan TDOC (Taiwan

年在華碩與資策會的協助下，「菲律賓智慧方舟國際志工團」由 11 位學生組成，以南民答那峨大學為據點，將華碩捐贈的 40 臺再生電腦完成安裝與網路架設，為當地成立了第一所臺灣數位機會中心 Kabacan TDOC (Taiwan Digital Opportunity Center)，幫助 120 位高中生開啟電腦程式、手機 app、網頁設計的資訊世界。

志工團團長、資管碩二的莊英讓表示，因為對當地環境的資訊不足，在臺灣準備的軟硬體，到了現場才發現有相當落差：包括當地建構數位基礎環境的知識不足、課程人數暴增三倍、甚至遭遇停電等，團隊必須靈活應變、一一解決問題。同團的呂淑茹分享把臺灣節慶設計成遊戲的多元互動，當地孩子對臺灣與中文的好奇、好學，想把課程教好而英文進步神速的資管小老師，成就了教學相長的最佳外交。

讓專業成長，可以是一份幸福的任務——自己幸福，同時也達成別人的幸福。吳肇銘表示，大一「企業概論」是初階版，未來將在大二、大三規劃專業升級的實境運作課程，讓學生更能發揮公益行銷的深度。「當各大學都在投入 USR，期待大學育才取向，除了研究層次，更能關注社會實務所需要的人才，善盡大學社會責任。」

Digital Opportunity Center) by helping 120 senior high students to enter the world of computer programs, mobile phone apps and webpage designs.

According to Zhuang Yi-Rang, Leader of the volunteer worker group and currently in the second year of the postgraduate program in Department of Information Management, as a result of insufficient information about the local environment, the hardware and software prepared from Taiwan were not quite suitable. For example, the local knowledge base about digital infrastructure was not adequate. There were three times more students that signed up the classes. There were also problems with power failures. The team had to be flexible in order to resolve problems one by one. Shu-ru Lu incorporated festivals in Taiwan into an interactive game and inspired local children to learn about Taiwan and the Chinese language. The motivation to teach well in English sharpened the language skills of these volunteering tutors. The teaching in learning and learning in teaching have become the best diplomacy from Taiwan.

The development of professionalism is a happy mission. It is making us happy and making other people happy. Professor Wu expects to launch the enhanced, practical version of Business Essentials in the second and third years of the curriculum, so that students can explore cause-related marketing on a deeper level. "Universities are now working on university social responsibilities. It is hoped that they focus both on research efforts as well as practical issues in education as part of their corporate responsibility."



▲ 中原大學「菲律賓智慧方舟國際志工團」是臺灣首度前往菲律賓南部民答那峨地區服務的志工團隊。Asus + CYCU Smart Ark Digital Learning Program was the first volunteering team from Taiwan to Southern Mindanao in the Philippines.

# 明基友達基金會 為實踐偏鄉數位關懷而努力

## BenQ Foundation

### Working Hard for Digital Care in Rural Areas



明基友達基金會自 2008 年承接教育部數位機會中心輔導計畫，以縮減數位落差為起點，走入農村社區，從教育、經濟、文化層面做有系統的輔導，以提升數位素養、行銷在地特色、打造「小農職人」、「百工職人」為目標。近年更透過「DOC 志工小旅行」，結合數位教育、認識在地與服務偏鄉，成效斐然。

The BenQ Foundation has undertaken the Digital Opportunity Center Coaching Program of the Ministry of Education since 2008. Starting from digital divide remediation, the BenQ Foundation has gone into rural communities, providing systemic coaching from educational, economic and cultural aspect to enhance digital literacy and market local characteristics with a focus on "local farmers" and "craftsman of all walks of life". In recent years, through "DOC Volunteers' Trip" the BenQ Foundation has combined digital education with a deeper understanding of local culture and service to the rural areas. The results have been remarkable.

明基友達基金會（BenQ Foundation）於 2003 年創立，秉承「傳達資訊生活真善美」的企業願景，以「縮小數位落差」、「培育老實聰明人」、「提升原創文化的價值」、「親善大地」為主軸，率先實踐企業社會責任，發揮品牌影響力，把真善美回饋給這塊土地。

## 數位機會中心， 培養資訊力的起點

數位機會中心（Digital Opportunity Center，簡稱 DOC）來自教育部配合行政院縮減數位落差政策執行「偏鄉數位應用推動計畫」，政府為

The BenQ Foundation was founded in 2003. It has been upheld the corporate vision of "communicating the truth, goodness and beauty of information life" and has taken the lead in practicing corporate social responsibility, exerting brand influence and returning the truth, goodness and beauty to the land with the themes on "digital divide remediation", "cultivation of honest and smart people", "enhancing the value of original culture" and "friendly land."

## Digital Opportunity Center, the starting point for cultivating information power

The Digital Opportunity Center (DOC) is the Ministry



▲ 明基友達員工的志工小旅行，深入在地體驗自然生活。  
BenQ volunteers' trip to experience local natural life at a profound level

社區居民準備了電腦設備和網際網路，任何年齡層均可培養資訊能力、創造數位機會。明基友達基金會自 2008 年起承接教育部數位機會中心輔導計畫，以縮減數位落差為起點，走入農村社區，從教育、經濟、文化角度做有系統的輔導，以打造「小農職人」、「百工職人」為目標，與地方共同發掘文化、經濟特色。

明基友達基金會「竹苗數位機會中心輔導團隊」計畫主持人陳哲妮執行長表示：「我們輔導小農建立自有品牌，鼓勵乾淨栽培、品質穩定、可長期推廣的項目培養小農品牌，然後建立故事，在 DOC 小市集、網絡平臺行銷推廣，如新竹橫山的〈沙坑紅寶〉、苗栗銅鑼的〈秋美人〉，都是優質好茶。」

明基友達基金會長期輔導學員，是農村社區與集團同仁的橋梁，來自土地的故事常感動同仁，使企業文化益發凝聚，集團同仁已把企業社會責任內化為生活實踐。明基友達集團的同仁深知 DOC，受輔導的小農一上線，大家用行動給予支持，員工在內部網路系統採購簡便，可從薪資扣款，年節、端午、中秋甚至設立市集，提供小農直面消費者的機會，大家也能吃到友善良食。

## DOC 結合志工旅行， 深入認識土地

DOC 的精神是教導民眾數位能力，近年來透過

of Education's project derived from the "Digital Application Promotion Program for Rural Areas," the Executive Yuan's policy for digital divide remediation. The government prepared computer equipment and Internet for community residents and people of any age can use these resources to develop their information skills and create digital opportunities. The BenQ Foundation has undertaken the Ministry of Education's Digital Opportunity Center Coaching Program since 2008. Starting from digital divide remediation, the BenQ Foundation has gone into rural communities, provided systemic coaching from educational, economic and cultural aspect with a focus on "local farmers" and "craftsman of all walks of life", and discovered cultural and economic characteristics with the locals.

Jennifer Chen, CEO of the BenQ Foundation and the leader of the Hsinchu and Miaoli DOC coaching team said, "We have coached farmers to establish their own brands and encouraged clean cultivation, stable quality and long-term items to build their brands and stories, and then marketed them on DOC markets and online platform. For example, Hsinchu Hengshan's 'Shakeng Hongbao' and Miaoli Tongluo's 'Autumn Beauty' are high quality tea."

The BenQ Foundation has been coaching farmers for a long time, and is a bridge between rural communities and the corporate. The stories from the land not only touched the BenQ staff but also cohered the corporate culture. The staff of BenQ Group was well aware of the DOC, and supported the coached farmers with action. Once the products are online, the staff can easily purchase the products from the internal network system and the payment can be deducted from their salary. The BenQ Foundation also set up market events for Chinese New Year, Dragon Boat Festival and Mid-Autumn Festival to provide the farmers with opportunities to interact with consumers directly, and the consumers can enjoy good food.

## DOC volunteers' trips for a deeply understanding of the land

The spirit of DOC is to teach people digital ability. In recent years, through volunteers' trips, the BenQ Foundation has combined digital education with a deeper understanding of local culture and service to rural areas. The "DOC Volunteers' Trips" organized by the BenQ Foundation is a good example. The BenQ Foundation combined the trips with volunteer service

志工旅行，把數位教育和認識在地、服務偏鄉結合，其中，明基友達基金會舉辦的「DOC 志工小旅行」堪稱典範。用旅行結合親善服務，招募明基友達集團員工大地志工，接觸自然農作、帶大家認識在地風土民情，瞭解產業現況。

志工旅行因時、因地、因人而多變。跟著時序走，暮春時節一起去新竹芎林採收桂竹筍，再到尖石馬里光部落替五月桃套袋；孟夏時節適合找茶，作伙到新竹橫山採摘沙坑夏茶；入秋別忘了苗栗銅鑼，這裡秋有杭菊冬有梅。農民與志工心意交流，分享友善耕作、保護生態的理念，也感受到彼此善意。

## 三灣 DOC 微電影發揮大力量

苗栗三灣數位機會中心（以下簡稱三灣 DOC）2015 年以微電影《又見土礮》贏得教育部「從 DOC 看臺灣」數位應用創作大賽微電影組金牌獎，駐點人員魏秋梅、李長青老師，整合好山好水好人情，吸引快樂志工參與，無論電腦、智慧型手機課程、微電影拍攝等皆座無虛席，每年產出一、兩部影片，並逐漸形成影像製作團隊，甚至跨出三灣幫助鄰近鄉鎮，為文化與產業紀錄盡心力。攝影學員有機會實地拍攝和剪輯，鄰近鄉鎮無須大筆經費即可擁有影像紀錄，幫助偏鄉行銷人文故事。

## 公館 DOC 畫筆記述石牆在地人文

公館數位機會中心（以下簡稱公館 DOC）與明基友達基金會多年來共同尋訪社區在地文化與人物故事、到石牆建庄 200 年舉辦的家鄉寫生活動、紀錄片「石圍牆村語」累積點滴匯聚而成今日故事牆的「美學生活營」課程。

藝術家關有仁老師偕同工作人員及學員們，替社區斑駁石牆抹上色彩，畫出歷史、地景、人物、信仰與產業的地方故事。

and recruited volunteers from the BenQ Group. Through natural farming, the BenQ Foundation brought the volunteers to experience local customs and learn the current situation of the industry.

The volunteers' trips vary with time, place and people. Following the seasons, the volunteers harvested Makino bamboo shoots in spring in Hsinchu Qionglin and then bagged baby May beaches in Maliguang tribe in Jianshi Township; in summer, the volunteers plucked summer tealeaves in Hengshan Township in Hsinchu County; and then visited Florist's Daisy and plum blossoms in Tongluo Township in Miaoli in fall and winter, respectively. The farmers and volunteers exchanged and shared ideas and concept of environmentally friendly farming and ecological protection. Goodwill was well communicated.

## Sanwan DOC: micro film plays a big role

The Miaoli Sanwan Digital Opportunity Center (Sanwan DOC for short) won the gold medal in 2015 with the micro film "Rotary Husker" in the micro film category of "Seeing Taiwan from Digital Opportunity Center," a digital application competition held by the Ministry of Education. Chiu-Mei Wei and Chang-Ching Lee, teachers at the DOC, integrated beautiful natural scenery and local hospitality to attract happy volunteers. Their computer class, smart phone class and micro film shooting class were popular among students. They produced one to two micro films every year, formed an image production team and even helped neighboring towns shoot videos. Their efforts in recording culture and industry were admirable. They students had opportunities to actually shoot and edit the films, and the neighboring towns can have the image records without paying a huge amount of money. It was a great help in marketing stories of the rural areas.

## Gongguan DOC: stories of Stonewall Village recorded by painting

Gongguan Digital Opportunity Center (Gongguan DOC for short) has been exploring stories of local culture and people with BenQ Foundation for many years. Gongguan DOC and the BenQ Foundation organized a sketching and drawing activity and shot a documentary, "The Stonewall Village," to celebrate the 200th anniversary of the Stonewall Village. These have become materials for the



▲ 三灣 DOC 拍攝《又見土礮》的故事，為在地留下珍貴的影像紀錄。"Rotary Husker," a micro film by Sanwan DOC is a precious image record of local culture .

故事牆展現石墻村兩百多年的風華，召喚村民對石墻的記憶與情感，凝聚更多社區對地方的認同，肩負入庄第一站的角色與意象，提供造訪的民眾認識石墻豐厚人文，也為石墻後生們，開啟一道理解自身與家鄉的門。

## 馬里光 DOC 雲端銷售打造家園經濟

馬里光數位機會中心（以下簡稱馬里光 DOC）位在新竹尖石鄉，部落學員透過工作坊討論，探討對部落產業的期望，彼此約束，遵守不灑農藥、不施化肥的耕作原則，栽植自然無毒果實，組成「睺婦女小組」。五月桃媽媽們透過 DOC 資源與課程，架構一個部落共同的銷售平臺，設計水蜜桃統一包裝、訂定出貨標準跟規範，聚集眾人之力，催生部落共同品牌「馬里光五月桃」。每年五月，部落透過共同的網路平臺向外銷售，亦提供明基友達集團員工團購，自然美味的口碑，累積眾多一再回購的忠實顧客。

「馬里光五月桃」雲端銷售成功，鼓舞更多族人投入健康農作，引領部落青年回流務農，相信守護自然跟人的良善平衡，是與土地更接近的價值。

以實踐偏鄉數位關懷為使命，在部落與鄉村間寫下一個個動人的故事，明基友達基金會任重而道遠，未來將持續努力！

"storywall" courses of the Aesthetic Life Workshop.

Artist You-Ren Kuan, with the staff and students, painted the mottled stonewall in the community with history, landscape, people, beliefs, industry and local stories.

The story wall shows the elegance and grace of the 200 year-old Stonewall Village, recalling the villagers' memory and emotions on the stonewall and cohering more community recognition of the place. The stonewall is the first thing people see when stepping into the Stonewall Village. It is a monument for visitors to know the culture and history of the Stonewall Village and a gateway for Stonewall descendants to trace their roots and understand their hometown.

## Maliguang DOC: cloud marketing creates home economy

Maliguang Digital Opportunity Center (Maliguang DOC for short) is located in Jianshi Township, Hsinchu County. Students of the DOC discussed their expectation of the tribal industry in workshops. They reminded each other to abide by the cultivation principle of no pesticide and chemical fertilizers, cultivated natural and non-toxic fruits, and formed a woman group. These women constructed a tribal marketing and sales platform through the DOC resources and courses, designed uniform package for the May peaches and formulated delivery standards and regulations. With everyone's effort, the woman group built a brand for the tribe, "Maliguang May Peach." The tribe markets and sells peaches through the online platform every May, and provides group purchase to the BenQ Group staff. Through word of mouth, the natural and delicious peaches are welcomed by many loyal customers with repeated purchase.

The successful cloud sales of "Maliguang May Peach" have encouraged more tribal people to invest in eco-farming and attracted tribal youth to farming in the belief that the good balance between nature and people is the value closer to the land.

With the mission of digital care, the BenQ Foundation has written down touching stories in tribes and rural areas. With a great responsibility on its shoulder and a long way to go, the BenQ Foundation will continue to work hard in the future!

# 資策會國際處結合產官學 以數位平權讓臺灣走向世界

## International Division of the Institute for Information Industry Promotes Digital Equity by Bringing Taiwan Government, Industries and Academics to the World



臺灣是個科技島，MIT 筆電桌機的製造優勢、雲端數位的領先技術，成為關懷偏鄉、推及海外彌平數位落差的力量。結合國家外交使命、善用企業資源，以及國際學生志工的多方美意，資訊工業策進會在期間扮演重要的橋樑角色，持續為海內外數位推廣發光發熱。

Taiwan is a tech island, known for its manufacturing prowess for laptops and notebooks and cutting-edge technology for Cloud and digitalization. This serves as the strength to eliminate digital divide in remote areas and other parts of the world. The Institute for Information Industry has been tasked with digital diplomacy by leveraging corporate resources and international students and volunteers. The Institute for Information Industry has served as a bridge during this period and continued to promote digitalization in Taiwan and overseas.

資策會國際處處長黃瓊雅表示，經濟部國際貿易局及外交部委託資策會所執行的 APEC 數位機會中心 (ADOC) 計畫，十多年來得了許多獎項，也匯聚各方許多能量，一起為數位落差努力。這是科技外交，也是國民外交，展現臺灣 ICT (Information Communication Technology, 資訊通信技術) 的軟實力與暖實力。數位機會中心 (DOC) 的 ICT 高科技是許多外國朋友認識臺灣的第一印象「看似科技軟硬體的輸出，實則充滿溫度的國際交流，是臺灣科技產業的往外推展，也是身為科技大國的光榮。」

According to Ms. Vivian Huang, Director of International Division, the Institute for Information Industry (III), the APEC Digital Opportunity Center (ADOC), implemented by the III under the commission by the Bureau of Foreign Trade, Ministry of Economic Affairs and the Ministry of Foreign Affairs, has won many awards over the past decade. It has served as the gathering place for different parties endeavoring to narrow the digital divide. The digital diplomacy and citizen diplomacy demonstrate the warmth and soft people of Taiwan in the information and communication technology. For many foreign friends, Digital Opportunity Center is their first impression about Taiwan. "The export of tech hardware and software is in fact a hearty experience of international exchange. Taiwan as a tech leader takes pride in the continued extension of its footprint."



▲ 透過水情 APP 等管道將可能的災害訊息做預先傳遞，將傷害降至最低。DOC opens the door of digital education for street kids in the Philippines.

## 從 ADOC 到 TDOC 培育超過 75 萬國際學員

長期在國內推廣數位機會中心，資策會國際處自 2004 年起將觸角向海外延伸，契機源自 APEC 曼谷領袖會議的倡議。資策會國際處組長鄭乃豪表示，當年中研院李遠哲院長於 APEC 會議提出運用臺灣在資訊通訊產業的優勢，成立「APEC 數位機會中心」（APEC Digital Opportunity Center, ADOC）的倡議，協助 APEC 資訊化程度後進會員國，縮減數位落差，獲得所有經濟領袖們一致歡迎。

2003 年倡議、2004 年開始執行，以政府資金為主的 ADOC，直到 2009 年宏碁股份有限公司創辦人施振榮號召民間企業，包括宏碁、華碩、中華電信、慈濟基金會等一起投入 ADOC 2.0 計畫，捐贈軟硬體、發揮企業社會責任；加上每年 5 至 10 隊大專志工團的海外派遣人力，產官學三方齊心合力。2015 年起，延續 ADOC 的成功經驗，以臺灣數位機會中心 (Taiwan Digital Opportunity Center, TDOC) 計畫善用臺灣在資通訊的軟實力，服務延伸至非 APEC 會員國，深化與東南亞各國政府及 NGO 合作。2004 年迄今，海外數位機會中心計畫共計服務 13 國、

## Over 750,000 International Students Trained from ADOC to TDOC

After years of efforts of promoting digital opportunity centers in Taiwan, International Division reached out to the international community in 2004. The catalyst was the APEC Thailand 2003. Nai-Hao Cheng, Manager of International Division indicates that APEC Digital Opportunity Center (ADOC) was established with the support from Yuan-Tseh Lee, then the President of the Academia Sinica. He advocated in the APEC meetings that Taiwan could leverage its advantage in information and communication technology and assist its APEC partners in the catching up of digitalization and reduction of digital divide. His proposal was welcomed by all the economic leaders on the occasion.

ADOC was initiated in 2003 and began operational in 2004, with funding primarily from the government. In 2009, Stan Shih, founder of Acer Inc. called for Acer, ASUS, Chunghwa Telecom and Buddhist Compassion Relief Tzu Chi Foundation, etc. to donate hardware and software and honor their corporate social responsibility in the ADOC 2.0. Meanwhile, five to ten cohorts of college students each year are sent overseas as volunteer workers. At this juncture, the government, industries and academics joined forces. In 2015, Taiwan Digital Opportunity Center (TDOC) was established, as an extension of the ADOC success. The vision was to leverage Taiwan's soft power in information and communication, extend the services to non-APEC countries and deepen cooperation with government agencies and NOGs in South East Asia. Since 2004, overseas digital opportunity centers have provided services in 13 countries, built 115 digital opportunity centers, and educated more than 750,000 students. Taiwan's contribution is highly regarded in the international community.

## Integrating resources from public and private organizations to cultivate digital education on the ground

The resources from digital opportunity centers are from government agencies and private sectors, but they have different expectations. The Institute for Information Industry endeavors to satisfy Taiwan government's diplomatic efforts and maximize the public interests on behalf of private companies. Nai-



▲ 海外志工融入書法體驗課程，吸引學生參與數位學習。Volunteer workers design calligraphy classes to attract students for digital learning overseas.

成立 115 數位機會中心，培育超過 75 萬學員，臺灣的付出獲國際高度肯定。

## 串聯政府民間資源 深耕在地的數位教育

「DOC 的資源來自政府與民間，兩者期待的效益不同。同時滿足政府外交需求、以及民間企業公益造福最大化，這是資策會努力整合的目標。」曾駐派印尼、菲律賓的鄭乃豪認為，除了帶入臺灣資源，更需深入在地、結合在地資源，才能擴大影響、效益加乘。

當年 DOC 想在菲律賓推動「貨櫃移動數位教室」進行偏鄉服務，但貨櫃車如何籌措？鄭乃豪發現當地華僑的關愛基金會有獎學金，卻因為窮人沒錢搭車來申請而資源閒置。他以「石頭湯」的故事說服華僑老闆，只要贊助，就把老闆公司的 logo 大大地放在貨櫃車上，等於免費行動廣告。

「40 呎的貨櫃，超醒目的 logo，果然引起眾人注目，很多華僑打電話來詢問、捐款、願意贊助貨櫃車。」最後，七台貨櫃車、載著臺灣雙 A 品牌的電腦、往返城鄉提供免費電腦教育，連菲律賓職訓局的 logo 也打上，上了課通過考試就能被認證！越來越多的 logo 上了貨櫃，DOC 的計畫受到地方人士的認可，一個月下來超過 300 人結訓，成果豐碩。

Hao Cheng, once stationed in Indonesia and the Philippines, believes that only by going deeper on the ground and integrating with local resources can Taiwan enhance its influence and expand its contributions.

The DOC was hoping to drive the containers as the digital classroom for remote regions, but where could they source funding for the vehicles? Nai-Hao Cheng noticed that local Chinese offer scholars, but poor people could not even afford to travel for applications. He used the story of stone soup to convince local Chinese entrepreneurs and promised to put their company logos on the vehicle as mobile advertising if they would sponsor. "The logos on a 40-foot container caught a lot of attention. Many local Chinese phoned and expressed their willingness to donate." Finally, a total of seven vehicles were put together, carrying Acer and ASUS computers to countryside for free computer education. In the end, the logo of the Technical Education and Skills Development Authority (TESDA) of the Philippines was on the vehicles for the accreditation services they offer. Those who sign up for the classes and pass the exam would be able to obtain certificates. More and more logos showed up on the container and the DOC initiative was recognized by locals as a huge success. More than 300 people completed the training after one month.

The Institute for Information Industry advocates corporate social responsibility, in order to encourage companies to donate computers. When ASUS launched the Eee PC, the Institute for Information Industry was hoping to provide digital education to different social groups such as street kids in Manila. By working with the social care organizations in the Philippines, the DOC provided medical services to street kids in Central Park and taught them to use Eee PC for their first computer lesson. In the beginning,

企業捐贈電腦，資策會以 CSR 為企業說故事，又是另一個善循環。華碩推出 Eee-PC 小型筆電，資策會正希望提供數位教育訓練給不同族群，如馬尼拉的街童。透過菲律賓當地的社福組織，在中央公園進行街童醫療，再同時提供 Eee-PC 做為數位教育工具，開始街童的第一堂電腦課。從不敢碰觸怕弄壞，到第一次開機的無比喜悅，用小畫家畫圖、用 Skype 通訊……DOC 為街童人生開啟一扇窗，未來的翻轉或許就此埋下希望。

## 數位教育無國界 推及南太平洋邦交國

而這樣的觸動，不只在海外弱勢角落發酵，也在投入海外 DOC 計畫的學生志工身上產生影響。2011 年起，華碩文教基金會的加入，針對大專院校招募國際志工團，前往海外數位機會中心提供教育服務與文化交流。鄭乃豪觀察，在生活的適應上，學生在資源較不佳的國家，面臨住宿條件、飲食衛生等種種震撼教育，都能自我調適，學會自我保護。擁有資通訊專業背景的志工，在海外 DOC 的各種臨時狀況，學習解決問題，更能自我實現。為了完成任務，志工就算英語不好，加上肢體語言，想盡辦法吸引人來上課，甚至還要帶動團體氣氛，帶了珍珠奶茶、書法等，積極完成使命。「能吃一碗炒飯、喝一杯乾淨的水，就好滿足！懂得知足，不以臺灣為本位的國際觀，對學生來說絕對是難得的洗禮。」

數位時代日新月異，資策會的數位教育也繼續前行。2019 年資策會「原鄉部落，數位關懷」再生電腦捐贈計畫，獲得華碩文教基金會及訊連科技響應，共募集到 105 台再生電腦及 105 套威力導演軟體，投入原鄉部落，幫助完成更多夢想。這份數位關懷，也將延伸至緬甸，以「微電影競賽」鼓勵數位學習再升級。而針對南太平洋邦交國，也將協助建構智慧政府能力、導入電子公文以及資訊安全，深化邦交國的友好關係。

they dared not touch the computer for fear of breaking it. Then they experienced the joy of the first boot. They learned to use Paint for drawing and Skype for communicating. The DOC opened a new window for these street kids and hopefully it has planted seeds for tomorrow.

## Borderless digital education in South Pacific countries with diplomatic ties

Similar stories are repeated with disadvantaged groups overseas, and have inspired students working as international volunteer workers for the DOC. In 2011, ASUS Foundation joined the DOC efforts by recruiting college students for international volunteering work. These Taiwanese students are sent to international digital opportunity centers to assist in educational services and cultural exchanges. Based on Cheng's observation, students from Taiwan are able to adjust and protect themselves when they experience the cultural shocks and poor conditions of accommodation, food and hygiene in relatively less well-off countries. The volunteer workers with professional background in information and communication technology know how to resolve problems and achieve personal goals in different kinds of unexpected situations. To accomplish their tasks, these volunteer workers do whatever it takes to attract students. If their English is not good enough, they use body language and even bring bubble tea and calligraphy sets with them. "Local people are happy just to eat a bowl of fried rice and drink a glass of clean water. It is a great experience for students in Taiwan to learn to cherish what they have and develop truly international perspectives."

The Institute for Information Industry continues its journey and evolves with the digital era. In 2019, the Institute for Information Industry kicked off the secondhand computer donation program for native tribes. This initiative was supported by ASUS Foundation and CyberLink. A total of 105 reused computers and 105 sets of PowerDirector software were donated to assist native tribes in realizing their dream. This digital sponsorship will be extended to Burma. A microcinema competition is organized to encourage further digital learning. Assistance will also be offered to the South Pacific countries with diplomatic ties with Taiwan. It is hoped that the efforts to assist in the deployment of smart governments, the introduction of electronic documents and information security can deepen the friendly relations with these countries.

# 「智慧生活顯示科技與應用產業策略 (SRB) 會議」

研討匯聚產官學研智慧 擘劃顯示科技產業發展藍圖

Strategy Review Board Meeting for Smart-Living Display Technology and Applications Industry

Academics, Government and Research Institutes Brainstorm about the Roadmap of the Display Technology and the Future of the Display Industry

科技產業技術能量居全球領先地位的台灣，如何讓顯示技術成為終端消費者互動的重要媒介、與各產業整合，打造出龐大商機，成為目前我國推動智慧生活發展的重點。

Given its global leadership in technology, Taiwan is striving to enable the display technology as an important media on devices for interactions with consumers. The vision is to bring the display industry in the spotlight for the development of smart living in Taiwan by collaborating with other industries and creating tremendous business opportunities.

作為全球科技重鎮，我國在科技領域的產值與技術能量，都位居全球產業領先群，近年來 5G 與 AIoT（人工智慧物聯網）等先進科技開始落地應用，未來生活的智慧藍圖逐漸被勾勒出來，行政院科技會報辦公室在今年 7 月 9 日於台北國際會議中心召開的「智慧生活顯示科技與應用產業策略會議」（簡稱 SRB 會議）中，就以「智慧生活趨動下之新興商機探討」、「台灣智慧生活顯示科技技術發展藍圖」、「智慧生活顯示科技產業跨域發展合作機制與環境建置」等三大核心議題，共同研商我國在未來智慧生活的應用商機。

## 三大議題探討智慧生活新商機

科技會報辦公室指出，科技是未來智慧生活的關鍵，而從近年來的各種智慧應用來看，顯示技術會是所有智慧系統中最讓使用者有感的技術，而我國長年在顯示器領域所培養的深厚基礎，早已

As the global hub for technology, Taiwan is in the top league in terms of production value and technological capabilities. The emergence of applications in 5G and AIoT (artificial intelligence + Internet-of-Things) is gradually taking the shape of smart living. The Board of Science and Technology, Executive Yuan hosted on July 9, 2019 Strategy Review Board Meeting for smart living Display Technology and Applications in the Taipei International Convention Center. The meeting was centered on three core issues, i.e. business opportunities for smart living; blueprint for the development of Taiwan's display technology for smart living; the cooperation mechanism and the environment deployment for multi-disciplinary developments of the display industry in smart living. The purpose was to explore business opportunities in smart living for Taiwanese players.

## Three topics for new business opportunities in smart living

The Board of Science and Technology indicates that technology is the key to smart living of the future. The plethora of smart applications during recent years suggests that display is the technology that



在業界開花結果。行政院副院長陳其邁出席開幕致詞時就指出，我國的顯示科技產業產值已達 1.5 兆元，技術能量居全球領先地位，若能以高解析度顯示器、電子紙等各種技術，創造出全新的產業模式，讓顯示技術扮演 5G、AIoT 等系統與終端消費者互動的重要媒介，並與各產業整合，打造出龐大商機。

對於「智慧生活趨動下之新興商機探討」議題，行政院吳政忠政務委員指出，就目前台灣社會來看，智慧醫療、智慧育樂、智慧零售和智慧移動等四大應用領域，會是我國智慧化建置中的優先選項，近年來我國高齡化趨勢加快、年輕人加速向都市集中，未來不僅需要終老，還要能安老。在教育方面，現在學習已不僅只於課堂，線上線下的整合，可以讓學習更全面。此外在電商的風行下，傳統零售業大受衝擊，透過智慧化系統將可進一步提升實體商店的附加價值，智慧移動則可紓解未來因城市化龐大人口所帶來的交通壓力。

在上述四大應用領域中，顯示技術都將成為各種系統中最有感知的科技。像是在智慧醫療中的長照體系，就可結合 AI 作為分析醫學影像，並作為遠距照護、視訊診療之用，彌補城鄉差距不足。智慧育樂則可透過顯示技術的互動與沉浸體驗，強化學習效果。在智慧商店中，數位看板將可鏈結店家與消費者兩端，讓供需雙方的資訊交流更密切，並與在地文化結合，讓消費更有感。至於智慧移動系統，可經由大數據、AIoT 與 5G 的結合，將訊息顯示在介面上，提供用路人更完整且具智慧的交通資訊。

這四個應用領域都將透過顯示技術的應用，創造

creates the up-and-close feel for consumers of smart systems. Taiwan's long-standing efforts and solid foundations in the display technology have paid off nicely. Chen Chi-Mai, Vice Premier of the Executive Yuan, said in his opening remark that the production value of the display industry in Taiwan reached NT\$1.5 trillion. The technological competence of Taiwanese players is also among the best in the world. The continued evolution of high-resolution displays and electronic paper promises a new business model. This puts the display technology in the contact point between consumers and 5G/AIoT devices and systems. Huge business opportunities await if different sectors come together.

Regarding the new business opportunities driven by smart living, Wu Tsung-tsong, the Minister without Portfolio of Executive Yuan, the priority is on smart medicare, smart education and entertainment, smart retail and smart mobility for the society in Taiwan. Due to the acceleration of population aging and movement of young people towards cities over recent years, it is imperative to ensure healthy retirement and good living in late years. Education nowadays is no longer limited to classrooms. The integration of online and offline activities makes learning a total experience. The vibrant development of ecommerce has greatly affected traditional retailers. Smart systems can enhance the value added of bricks and mortars. Smart mobility can alleviate the strain on transportation due to massive populations in urban areas.

All the four abovementioned applications depend on the display technology to make strongest impressions and impacts. For instance, the long-term care system in smart medicare can combine AI for the analysis of medical images, long-distance care and videoconferencing diagnostics. This will narrow the gap between urban and rural areas in terms of medical resources. Smart education and entertainment can create an immersive experience with interactions via the display technology to enhance learning effectiveness. In a smart shop, digital bulletin boards connect merchants and consumers and facilitate the information sharing between supply and demand. This can create a personalized feel if combined with local cultures. Smart mobility systems can integrate Big Data, AIoT and 5G by displaying to pedestrians traffic information smarter and more comprehensive.

These four applications will be materialized with the display technology as the media in the creation of human-centric smart living. This will accelerate industry transformations, in the pursuit of health and autonomy for our lives and driven by technology and digitalization. The synergy of smart applications in the context of environmental sustainability will make

出以人為本的智慧化生活，並加速產業轉型，以健康自立、科技生活、數位轉型跟環境永續加乘智慧應用，落實無所不在的互動顯示願景。

## 產業鏈合體、整合技術 創造市場區隔

台灣過去兩兆雙星政策所培養出的面板產業，其技術與產值都已居全球重要地位，近年來顯示器市場快速成長，不過賴以成長的液晶電視市場利潤正逐漸稀薄，而智慧生活將成為顯示技術的下一個藍海市場，在「台灣智慧生活顯示科技技術發展藍圖」議題，行政院科技會報辦公室蔡志宏執行秘書指出，技術藍圖的發展對國家經濟乃至於產業本身而言，都具有指標性意義，而藍圖的勾勒需要產業鏈上、中、下游三端取得共識，才能整合不同環節的技術，進而創造出差異化產品並區隔市場。

相較於中國大陸所投入的龐大資源，我國顯示科技產業過去在硬體製造的優勢已逐漸消失，因此必須盤點自身的優勢，重新找出方向。首先是必須建立起新興產業，此一產業必須根基於我們既有的基礎，其次是善用現有在半導體、感測、觸控與垂直應用的專業知識，創造出有別於過去的產業應用。而此一產業不能僅止於國內企業，而必須與全球的智慧化能量強力連結，同時在連結之初就已設定出未來的既定樣貌，讓最終的智慧化成果如預期呈現。

我國的顯示科技產業近年來步入產業轉型期，未來如何在全球市場中持續保持競爭力，以差異化產品創造出新價值，將決定產業的未來。智慧化帶起的新浪潮，將是我國顯示科技產業的轉捩點，只要能把握此機會，順利整合上下游與垂直應用，台灣仍有很多贏的機會。

要橫跨整合不同領域，除了必須建立共識外，合作機制與環境的建置也是重點，經濟部沈榮津部長指出，這次會議的智慧醫療、智慧育樂、智慧零售和智慧移動等四大應用領域，都有各自的專業性，顯示器產業必須充分了解相關專業，方能設計出符合需求的智慧化系統。

interactive displays a ubiquitous existence in the vision for future.

## Integration of supply chains and technologies creates differentiations

The Two Trillion and Twin Star Development Program has made the display industry in Taiwan an important player in the global market in terms of technical competences and production values. The display market has showed rapid growth during recent years. However, the profit margin in the LCD TV market (previously a growth driver) continues to shrink. Smart living promises a new blue-ocean market for the display industry. In the discussion of the display technological roadmap for smart living in Taiwan, Tsai Zse-hong, Executive Secretary of the Board of Science and Technology, emphasized the importance of this blueprint to Taiwan's economy and industries. It should be built on the consensus from upper, middle and downstream players across the supply chain, in order to integrate technical elements, create differentiated products and new market segments.

In contrast with the enormous resources invested by China, Taiwan has been losing its advantage in hardware manufacturing. Hence, it is necessary for Taiwan to reposition itself by reviewing its own strengths. The first step is to establish new industries based on existing foundations, and then to leverage the professional knowledge and knowhow in semiconductor, sensors, touch panels and other verticals. The purpose is to create applications different from the past and to beyond Taiwan. Rather, it is a prerequisite to connect with smart momentum in the rest of the world, in order to design its future at the initial stage and materialize the smart applications as expected.

The display industry in Taiwan has embarked on a transformation a few years ago. The challenge going forward is to stay competitive in the global market and create value with differentiated products. The new wave of smartness and intelligence presents an inflection point for the display industry in Taiwan. There are still many winning opportunities if we can integrate the supply chain from upper to downstream and applications in different verticals.

The cross-disciplinary integration requires the establishment of consensus, cooperation mechanisms and the environment. Shen Jong-chin, the Minister of Economic Affairs, indicated that the four applications (i.e. smart medicare, smart education and entertainment, smart retail and smart mobility) highlighted in this meeting are a highly professional field in their own right. The



▲ 行政院科技會報辦公室在今年7月9日於台北國際會議中心召開的「智慧生活顯示科技與應用產業策略會議」（簡稱SRB會議）中，共同研商我國在未來智慧生活的應用商機。The Office of Science and Technology, Executive Yuan hosted on July 9, 2019 SRB Conference for smart-living Display Technology and Applications in the Taipei International Convention Center. The conference was to explore business opportunities in smart living for Taiwanese players.

## 跨產業合作 找出新出發點

包括顯示在內的我國科技產業，過去多著重在自身的技術研發，在全球同類性產業中也取得領導地位，不過在智慧化應用中，合作是必然趨勢，唯有同行才能致遠，因此必須強化合作密度，各自貢獻所學，未來國內在此方面的發展將會是產業領軍、產研融合，政府則負責建置良好環境，包括提供完善的能源、人才政策，並結合台灣顯示器產業聯合總會（TDUA），整合我國的軟硬體技術與相關系統，並結合我國文化特色，將之應用在智慧醫療、智慧育樂、智慧零售和智慧移動等四大應用領域，協助產業完成策略布局。

我國是全球唯一在300公里內擁有四大科技園區，且有大量高素質科技人才的國家，其中顯示科技在我國已深耕20餘年，產業鏈早已完備，近年來中美貿易戰讓全球經濟局勢重整，大量高階、高附加價值產品回流台灣，再加上智慧化趨勢，顯示器迎來前所未有的機會，在跨產業合作下，我國的顯示科技產業將可在不同應用與場域中找到全新的出發點，帶著台灣走向世界，為下一次台灣奇蹟注入新動能。

display industry must gain a full understanding of these domains in order to design the smart systems meeting specific needs.

## Cross-industry cooperation for new starting points

In the past, the tech companies in Taiwan, including the display industry, focused on R&D, and they have obtained leadership among their global peers. However, cooperation is a must to succeed in the world of smart applications. It is necessary to step up collaboration by contributing knowhow. In Taiwan, industry players will take the lead by working with research institutes. Government agencies will be responsible for the infrastructure, supported by robust policies in energy and human resources. Taiwan Display Union Association (TDUA) will play a pivotal role in the integration of technology in hardware, software and system design, and combine it with the cultural elements in Taiwan for the four applications, i.e. smart medicare, smart education and entertainment, smart retail and smart mobility, by assisting the industry in strategic positioning.

Taiwan is the only country in the world with four science parks within a catchment area of 300 kilometers. We are also known for high-quality talents in technology. The display industry in Taiwan has a history of more than two decades, with comprehensive activities along the value chain. The trade war between China and the U.S. currently ongoing is reshaping the global economy, with the manufacturing of many high-end, high value-added products returning to Taiwan. This, combined with the trend for smartness, presents to the display industry an opportunity as never before. With cooperation across industries, the display industry in Taiwan can surely set off from a new start in different applications and use cases. This will bring Taiwan towards the world and instill new momentum for the next Taiwan miracle.



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# SRB:創造2030智慧生活新面貌 勾勒未來產業策略發展藍圖

## 新興智慧顯示應用趨勢&發展策略

透過強大顯示技術與醫療、育樂、零售及移動等各應用領域結合，台灣已邁入智慧生活圈。未來更將透過智慧化加持打造出有感經濟，也與國際市場鏈結，讓民眾與產業共創雙贏。

## 影像顯示科技發展策略

台灣顯示產業的技術先進、供應鏈完整，未來將強力整合上、中、下游三端，創造出差異化產品。同時凸顯顯示技術Micro LED的開發、電子紙技術，使其成為智慧化領域的利器。

## 顯示科技及關聯產業推動策略

強化各產業的合作密度，以產業領軍、政府支援的模式布局智慧化市場，透過顯示科技與垂直產業的整合，結合我國文化特色，目標聚焦於智慧醫療、智慧育樂、智慧零售和智慧移動等四大場域。

# SRB:Depicting the Smart Living in 2030; Blueprinting of the Industry Developments

## Emerging Smart Display Trends in Applications & Development Strategies

Supported by its strengths in display technology, Taiwan has entered an era of smart living, with the mushrooming of applications in smart medicare, smart education and entertainment, smart retail and smart mobility. Going forward, value-adding smartness promises to create an engaging economy, connected with the international market and enabling a win-win for industries and the society.

## Development Strategy for Imaging and Display Technology

The display industry in Taiwan is known for advanced technology and comprehensive supply chains. More efforts will be placed on the integration from upper, middle to downstream in order to create differentiated products. The development of micro LED and electronic paper will be emphasized as the cutting-edge technology for smart applications.

## Promotion of Display Technology & Affiliated Sectors

This is to enhance the intensity of cooperation between different sectors. With the support from the government, the industry shall spearhead the development of smart applications by integrating display technology with various verticals and combining it with the cultural elements in Taiwan. The focus is on smart medicare, smart education and entertainment, smart retail and smart mobility.

# 智慧生活顯示科技與 應用產業策略會議 Strategy Review Board Meeting, SRB

由行政院科技會報辦公室主辦，均邀請產、學、研各界專家及學者參與，在我國顯示科技與應用產業既有的基礎上，結合5G與智聯網(AIoT)等智慧科技，規劃其未來發展，同時創造2030智慧生活新面貌。

Strategy Review Board Meeting for Smart-Living Display Technology and Applications.

Hosted by the Board of Science and Technology, Executive Yuan, the Strategy Review Board Meeting for Smart-Living Display Technology and Applications invited industry practitioners, academic scholars and R&D researchers to explore the future of Taiwan's display technology and applications by building on the existing foundations and combining smart technologies such as 5G and AIoT. The vision is to create a new paradigm for smart living in 2030.