

smartaichung

未來進行市



下
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等
一
星
心

VOL 4

 DIGITAL
AFFAIRS
BUREAU

臺中市政府數位發展局

Digital Affairs Bureau of Taichung City Government / 2026



水湳轉運中心
Shuinan Transit Center

PEANUTS



城市裡，藏著好多小小的智慧。

找一找、看一看，

你會發現——

科技其實一直都在陪我們長大。

MAYOR'S MESSAGE



保持童心

看見城市最溫柔的智慧 ★

Stay Playful and Discover the Gentle Side of a Smart City Life

一座真正成熟的城市，不只是擁有先進的科技，更要用同理照顧每一個人，以最貼近生活的方式，回應不同世代的需求。

在我心中，真正的智慧城市，不是讓人驚嘆科技有多厲害，而是讓每個人都能自在生活。當孩子能安心走在通學步道上，帶著好奇探索城市；當長輩能自在使用公共服務，放心享受日常；當每一位市民都能感受便利與安全，那便是智慧城市真正的價值所在。

這些年來，我們持續在臺中推動智慧治理，從交通、教育、醫療、環境到各項公共服務，我和團隊始終相信，科技不該只是冰冷的系統，而應成為陪伴生活的力量，那是有溫度的！默默守護每一次通行、每一次就醫、每一次親子同行，讓不同世代的市民，都能在這座城市裡找到屬於自己的幸福節奏。

因此，本期《未來進行市》以「保持童心 Smart is Playful」為主題，邀請大家換一個視角，重新認識臺中。跟著孩子的眼睛觀察城市，重新發現那些早已融入日常、卻默默守護生活的智慧服務；從不同世代的需求出發，看見臺中如何以科技串聯人與人、人與城市的距離。

未來，臺中將持續以創新結合人文，讓科技成為拉近彼此距離的力量，讓每一位市民都能帶著好奇探索、帶著安心生活，共同創造屬於臺中的美好未來。

A truly mature city is not defined only by advanced technology. It also cares for everyone with empathy and responds to the needs of different generations in ways that stay close to everyday life.

To me, a true smart city is not about making people marvel at how powerful technology is. It is about helping everyone live with ease. When children can walk safely to school and explore the city with curiosity, when older adults can use public services with ease and enjoy daily life with peace of mind, and when every resident can feel convenience and safety, that is the true value of a smart city.

Over the years, we have continued to promote smart governance in Taichung, from transport, education, healthcare, and the environment to all kinds of public services. My team and I have always believed that technology should not be a cold system. It should be a warm force that supports everyday life. It quietly supports every journey, every medical visit, and every outing shared by parents and children, allowing residents of all generations to find their own rhythm of happiness in this city.

That is why this issue of Smart Taichung, themed "Stay Playful: Smart is Playful", invites everyone to see Taichung from a new perspective. By looking at the city through children's eyes, we can rediscover the smart services that have long become part of daily life and quietly protect it. Starting from the needs of different generations, we can see how Taichung uses technology to bring people closer to one another and closer to the city.

Looking ahead, Taichung will continue to bring innovation and human values together, making technology a force that brings us closer. We want every resident to explore with curiosity, live with peace of mind, and help create a better future for Taichung.



臺中市長

盧秀燕

DIRECTOR'S MESSAGE

局長的話

→ Smart is Playful

跟著孩子走進臺中的新日常



Smart is Playful: Following a Child into Taichung's New Everyday Life

When you hear "smart city," what comes to mind first? AI, big data, robots, or all kinds of fast-changing new technologies?

In this issue, I'd like to invite you to set those answers aside for a moment and instead follow in a child's footsteps, seeing Taichung's technological everyday life anew through her eyes.

We chose not to begin with complex technology, but instead with a weekly journal entry, a journey to school, a bus ride, and a park. Because in a truly mature smart city, technology has already become a quiet part of everyday life.

"Smart is Playful" isn't just a slogan—it's a way of thinking about the city. We hope technology can be as approachable as a good friend, accompanying every citizen like a playmate: letting children feel free to explore, giving parents greater peace of mind, and helping seniors live with greater ease. Through this child's daily journey, you'll see how smart transportation, smart education, and people-friendly spaces have quietly woven themselves into everyday life. You'll also step into the stories of businesses, educators, and teams across the city government, discovering how countless efforts and care come together behind every thoughtful design.

Technology has never been the destination of a smart city—it is a way to support and enrich everyday life. When it allows children to explore and learn a little more, gives parents a little more peace of mind, and helps seniors live with greater ease, that is when "smart" truly gains warmth.

We invite you to open this issue of Smart Taichung – The City of the Future with us and set off on a city adventure all your own. You may find that truly remarkable technology isn't the kind that amazes—it's the kind that reassures. And a truly successful smart city isn't one bursting with futuristic flair—it's one where every single day feels a little more comfortable and convenient.

提到智慧城市，最先想到的會是什麼呢？AI、大數據、機器人，還是各種變化快速的新技術？

這一期，我想邀請大家先把這些答案放一放，跟著一位孩子的腳步，用她的視野重新認識臺中的科技日常。

我們刻意沒有從複雜的技術談起，而是從一篇週記、一段通學路、一趟搭公車的旅程、一座公園開始。因為真正成熟的智慧城市，科技已經悄悄存在於每天的生活裡。

「Smart is Playful」，不是一句口號，而是一種城市思維。我們希望科技像一位好朋友一樣容易親近、像玩伴一樣陪伴每一位市民，讓孩子願意探索、家長更加安心、長輩自在生活。你將跟著孩子的生活軌跡，看見智慧交通、智慧教育、友善空間如何悄悄融入日常；也將走進企業、教育工作者與市府團隊的故事，看見每一項友善設計背後，如何匯聚無數人的努力與心意。

科技，從來不是智慧城市的終點，而是陪伴生活的方法。當它能讓孩子多一分探索學習、讓家長多一分放心、讓長輩多一分安心，智慧便真正有了溫度。

歡迎和我們一起翻開這一期《未來進行市》，展開一場屬於你的城市探險。或許你會發現，真正厲害的科技，不是讓人驚嘆，而是讓人安心；真正成功的智慧城市，不是充滿未來感，而是讓每一天，都過得更自在便利。



臺中市政府數位局局長

黃惠敏

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讓城市移動更直覺

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用科技守護每一顆好奇心

⊕ 教育局局長 蔣偉民



環保愛地球，本印刷品採大豆油墨印刷。

保持童心

★ 重新發現城市裡的每一個驚喜 ★

EDITOR'S NOTE

編輯前言

如果有一天，我們能重新用孩子的眼睛看城市，會發現什麼？

本期《未來進行市》以「保持童心 Smart is Playful」為主題，跟著四年級的童童展開一場城市探險。從上學、搭公車、陪家人出門，到散步、玩耍，每一個習以為常的日常，都藏著智慧城市默默守護生活的細節。

紀實每日 Sight

從童童的生活週記出發，跟著一週的移動軌跡，感受智慧城市如何悄悄陪伴日常。

生活加法 Upgrade

翻開老師的補充講義，一起探索城市裡的智慧知識與永續祕密，完成屬於自己的生活觀察。

Stay Childlike — Rediscover Every Little Wonder in the City

What might we discover if we could see the city through a child's eyes once again?

In this issue of Smart Taichung – The City of the Future, themed "Stay Childlike – Smart is Playful," we invite you to join Tong Tong, a fourth-grade student, on an urban adventure. From going to school and taking the bus to spending time with family, walking through the neighborhood, and playing in the park, every familiar moment reveals how a smart city quietly supports everyday life with thoughtful care.

Sight

Follow Tong Tong's weekly journal and retrace a week in the city, discovering how smart technologies gently accompany everyday experiences.

Upgrade

Open the teacher's supplementary notes to explore the city's

共創城市 Cooperate

看見企業、教育工作者與民間團體攜手合作，如何共同守護孩子的未來，也讓城市持續向前。

建設者日誌 Mission Possible

走進政策推動的第一線，聽見交通與教育工作者的分享，理解一項項友善設計背後的思考與努力。

智慧城市，不只是更聰明的城市，也是更懂得陪伴的城市。現在，就讓我們一起保持童心，用好奇探索每一個日常，也重新發現，原來臺中一直都在用最溫柔的方式，陪伴每一位生活在這裡的人。



smart innovations and sustainability ideas, while creating your own observations of urban life.

Cooperate

Meet businesses, educators, and community organizations working hand in hand to shape a brighter future for children and build a better city together.

Mission Possible

Step behind the scenes of policymaking and hear from transportation and education professionals about the ideas and dedication behind every people-centered initiative.

A smart city is more than a city empowered by technology—it's a city that knows how to care. So let's stay childlike, explore each day with curiosity, and rediscover how Taichung quietly accompanies everyone who calls this city home.



童童的一週小日記



我是童童，今年國小四年級。

老師說，這學期要交一篇「生活週記」，題目可以自由發揮。

我想了很久，決定寫下這星期我在臺中發生的大小事——原來我每天走過的路、搭過的車、去過的地方，都藏著好多以前沒注意到的「聰明機關」！



Daily Chronicle

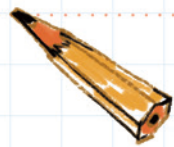
Tong-Tong's Weekly Diary

Hi, I'm Tong Tong, and I'm in fourth grade.

My teacher said that this semester we need to submit a "weekly journal" and we can choose any topic we like.



I thought about it for a long time and decided to write about the big and small things that happened to me in Taichung this week. It turns out that the roads I walk on every day, the buses I take, and the places I visit are full of smart little systems I had never noticed before!



水湳轉運中心
Shuinan Transit Center

軍功

星期一

上學路上的祕密

社團活動結束，我跟同學一起走出校門。

校門口到巷口的地上有著好顯眼的彩色標線，路口還立著一支會提醒大家的數字桿子，讓轉彎的汽車都自動慢下來。這條回家路變得好安全，也好新奇！



通學區終點
End School Zone

TIPS

截至2026年8月中旬，臺中市已完成170處通學區改善，設置1,018處綠斑馬，持續改善學生每天上下學的步行環境，守護學童安全。

星期二

陪奶奶看醫生

陪奶奶到臺中市立醫院做檢查，大廳裡一台粉紅色機器人看向我們——原來她叫「愛寶」！奶奶上前隨口問了「愛寶」問題，沒想到她回答得又快又準確，真是令我們大開眼界！聽說「愛寶」還具備超多先進的功能，簡直是大家的小幫手！



TIPS

臺中市立醫院園區佔地4.88公頃，是全台規模最大的醫療BOT案，並以智慧綠建築打造擁有十大醫療中心的園區。導入生成式AI照護機器人「愛寶」，會說中、台、英等多語，並具跌倒偵測通報功能。



星期三 水滴一日遊

今天全家一起去了綠美圖看書，路上我看到草皮上有好大的史努比氣球，還有好多人在拍照，原來今天是「水滴轉運中心」開幕日。後來爸爸也帶我們也一起去參觀，還和史努比拍了照，超級開心！



TIPS

1

水滴轉運中心規劃為地下3層、地上4層，是全市首座100%太陽能屋頂的轉運站，整合國道客運、市區公車、捷運、計程車與 YouBike 等運具，並提供地下停車場，包含設有278席低碳車位，鼓勵綠色運輸，是水滴經貿園區新門戶。

爸爸說，路上有些紅綠燈也換上了同樣的主題，現在每次過馬路，我都會忍不住看看燈裡的史努比，發現路上處處都有可愛的小驚喜。



TIPS

2

8月5日啟用當週攜手《Peanuts》推出6公尺史努比家族氣偶打卡活動，部分行人號誌同步換裝。

哇！



我還看到一台黃色的巴士——原來這台車是自己會開的「自駕巴士」！超酷的！



TIPS

3

水滴自駕巴士是國內自主研发的無人小巴，路線串聯水滴轉運中心與捷運文華高中站，沿途經過中央公園、綠美圖與國際會展中心，預計2026年秋天開放民衆試乘。



星期四 搭上聰明公車

今天，我和媽媽要陪坐輪椅的阿姨一起去辦事。出門前，媽媽先用手機查公車動態，找到有無障礙標誌的公車，還幫阿姨提前預約搭車。

過了一會兒，公車來了！司機停車後，知道我們有預約，就把無障礙坡板放下來，讓阿姨可以坐著輪椅順利上車。

原來聰明的公車，不只告訴我們什麼時候到站，還會提前知道誰需要幫忙，讓每個人都能安心出門。



TIPS

當候車民衆進入預約站點範圍內，即可透過APP/現場按鈕啟動候車亭服務燈，免去傳統招手的程序，提升搭車便利性



星期五 親子館的小時光



今天，我和爸爸到坪林圖書館看書，媽媽則帶妹妹到二樓的坪林親子館。妹妹在親子館玩積木、讀繪本，還參加有趣的親子活動，玩得很開心；我也在圖書館找到喜歡的故事書，度過愉快的下午。

媽媽說，現在到親子館只要加入會員出示QR Code，很快就能完成報到。喜歡的玩具和圖書也可以先上網查詢、借回家，讓我們回家後還能繼續享受閱讀和遊戲的樂趣。



TIPS

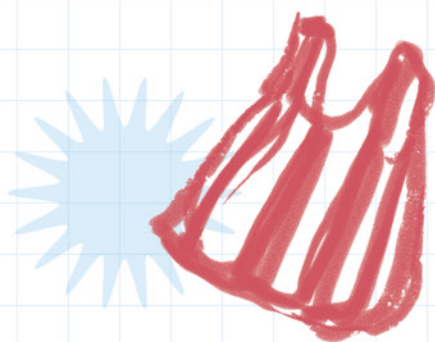
臺中市親子館開放0至6歲（未就讀國小一年級前）的學齡前嬰幼兒及其照顧者使用，提供遊戲空間、親子活動、親職教育、兒童發展篩檢、教玩具及圖書借用等多元服務。市府持續推動「區區親子館」，家長可至「臺中市育兒資源網」查詢各館資訊、活動及服務內容。





星期六 全家一起做環保

今天，全家一起分類收拾垃圾，抓準時間倒垃圾，爸爸媽媽拿出手機一看，就知道垃圾車會去哪裡、幾點會到，真是方便！



TIPS

垃圾清運大車隊App下載破56萬次，涵蓋全市29行政區、2萬多個清運點，即時查詢動態、到點前還會推播提醒。

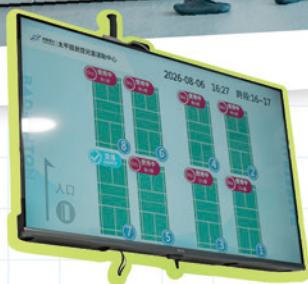


我也要來下載！



星期日 運動中心玩耍

今天，我們全家決定去運動，但外面天氣好熱啊！媽媽說臺中現在有「國民暨兒童運動中心」，在室內運動就不會被太陽公公曬得發昏，還有好多有趣的設施可以玩喔！



TIPS

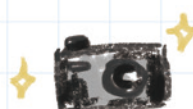
太平國民暨兒童運動中心坐落11.7公頃坪林森林公園內，體適能空間390坪為全國之最。

這裡面空間好寬敞，還有一個超大的泳池和健身房，也有小朋友的遊戲區，牆上螢幕還能直接看到有沒有人在使用，這樣一下子就能找到地方可以玩了！



回想這一週，我發現城市裡處處都有貼心的小幫手，讓我們的生活更安全、更方便。

原來，住在臺中真的好幸福！



老師的城市小百科

童童這禮拜的週記裡，藏著好多值得認識的小祕密！這次，老師特別整理了臺中的11個「城市小百科」，帶你認識它們的模樣、功能，還有有趣的小任務。下次出門時，也別忘了找找看它們的身影哦！



城市小百科 | 01



跟02綠斑馬是好朋友，都是在保護上下學路上的你



智慧路標

#種類 路口安全裝置
#出沒地點 沒有紅綠燈的路口
#第一次出現 2022年

有些路口沒有紅綠燈，車子一多，其實很危險。智慧路標就是站在這種路口的「小衛兵」，它會自己感應有沒有車子靠近，然後馬上在旁邊的燈牌上閃字提醒：「小心，有車來了！」跟一般的標誌不一樣，它不是安安靜靜站在那裡等你看到，而是真的會主動「開口說話」。

目前有幾個

133

處 (到115年6月為止)

怎麼感應到車

用雷達，感應到車子接近就會亮燈提醒

最新升級

113年起，救護車、消防車出動時也會提醒周邊用路人

特別的一座

軍功國小、四張犁國中周邊，除了警示還能看到車速多快

你知道嗎？



- ★ 它經常出現在「無法設置紅綠燈」的路口—這種地方看起來不起眼，若不注意路口狀況也是會發生事故的喔
- ★ 它也會幫忙提醒大家要「優先禮讓」！
- ★ 部份智慧路標除了提醒功能外，還能顯示車速，提醒駕駛經過該區應放慢車速，保護學童／用路人安全



老師的小任務

► 放學路上找一個智慧路標，看看它長什麼樣子、怎麼提醒你：_____

綠斑馬



#種類 路口標線

#出沒地點 學校周邊路口

就是把斑馬線塗成鮮豔的綠色！為什麼要塗綠色？因為顏色越顯眼，開車的人就能越早發現「這裡有人要過馬路」，提早放慢速度。

目前有幾條

1,018 處
(到115年8月為止)

主要出現在哪

全市一百多所學校附近

搭配什麼一起用

學區內限速措施

你知道嗎？

- ★ 不是隨便挑地方畫的，是把全市學校都仔細檢查過一輪才決定的
- ★ 顏色本身就是一種提醒，比白色斑馬線更容易被看見
- ★ 常常跟①智慧路標出現，兩個一起守護你



老師的小任務

- ▶ 找一個有綠斑馬的路口，並且記錄是在哪個地方看到：

無障礙公車&



公車動態系統

#種類 公共運輸

#服務對象 所有人，特別友善長輩、輪椅族

地板公車的車廂跟月台幾乎一樣高，上下車不用跨階梯。搭配手機App，還能像查天氣一樣，先知道公車還要幾分鐘才會到，不用在路口白白等待。

無障礙公車比例

99.3%

全路網都有無障礙公車

無障礙公車總數

1,089 輛

低地板佔比

94.5%

貼心加碼

候車亭裝了服務燈，優先設在長輩、身障朋友較多的地方

你知道嗎？

- ★ 低地板公車真的一階都不用跨，坐輪椅或推娃娃車都很方便
- ★ 候車亭服務燈是聽了大家的意見才決定要裝在哪裡的
- ★ 幾乎每條公車路線都找得到無障礙車輛



老師的小任務

- ▶ 請下載「台中Go」APP，試著查詢常搭乘的公車路線，在幾分鐘到站？

佔全市公車
89.4%



水湳自駕巴士

#種類 實驗中的未來交通

#出沒地點 水湳經貿園區

一台不用司機、自己會判斷路況的小巴士！它是國內自行研發的，正在水湳經貿園區努力學開車，準備串聯水湳轉運中心跟捷運文華高中站。

會開去哪裡 → 水湳轉運中心 → 捷運文華高中

路上會經過 → 中央公園 綠美圖
國際會展中心

坐一趟要多久 → 35~40min

什麼時候能坐 → 預計2026年下半年開放試乘
3個月

你知道嗎？

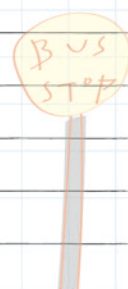
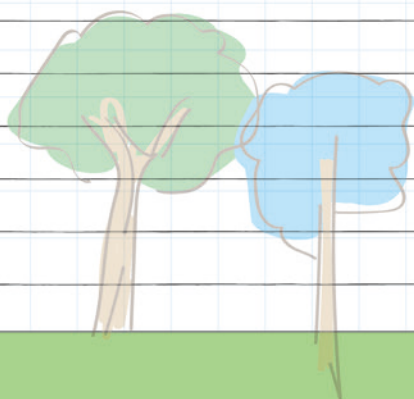
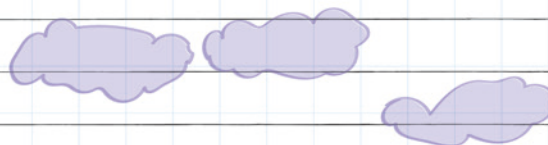
- ★ 自駕巴士想上路也得先「考駕照」，通過層層嚴格審查，才能領到專屬的實驗車牌
- ★ 它的路考超嚴格！不僅要會轉彎、變換車道、乖乖禮讓行人，連遇到路邊施工的三角錐，都要能聰明繞過去



老師的小任務

► 如果有機會經過水湳經貿園區，找找看有沒有機會看到這台自駕巴士：_____

心得紀錄





水湳轉運中心

- #種類 交通樞紐新地標
#地點 水湳經貿園區
#啟用日 2026年8月5日

04的水湳自駕巴士、都在這裡熱鬧登場

這是一棟把7種交通工具都集合在一起的建築，我們叫它「交通任意門」——不管你要搭客運、公車、計程車，還是騎YouBike，通通不用再東奔西跑找站牌，一棟樓就能全部搞定。

整合運具

國道客運、市區公車、計程車、自用車、機車、YouBike、未來捷運橋線，共**7種**

目前公車路線

市區公車9條（其中555路直達機場、156路直達高鐵臺中站）

預估每日運量

國道客運進出約700班次，旅客達**2.3萬人次**

停車空間

614席汽車、1,253席機車、604席自行車



你知道嗎？

- ★ 建築設計靈感是「北極之星」，融入候鳥飛行、旅行、回家的意象
- ★ 3、4樓已經先預留好接國道的介面，地下也留了捷運橋線的位置——先把家蓋好，等未來的交通系統入住



老師的小任務

► 如果有機會去水湳轉運中心，找找看「北極之星」的設計概念藏在哪裡：_____



特色人行號誌

#種類 交通安全宣導

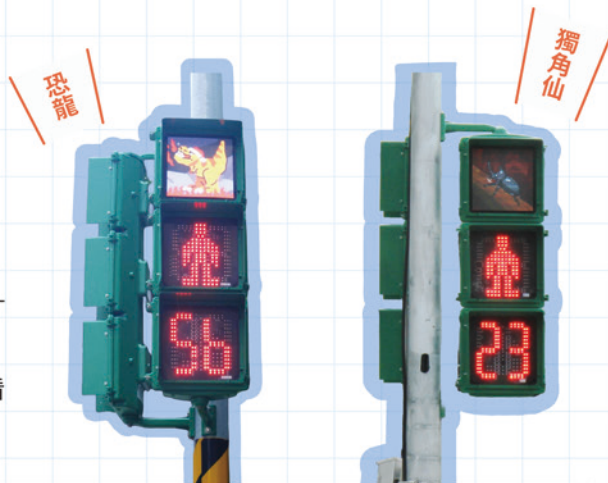
#分布 科博館、草悟道、東勢、各大商圈路口

小綠人不再只有一種樣子！交通局跟不同地標合作，讓路口號誌變裝成當地的代表角色——會噴火的恐龍陪你過科博館門口的馬路，戴墨鏡滑滑板的小狗守著草悟道，獨角仙在東勢的生態公園旁邊過馬路，史努比則是目前分布最廣的一組，遍布12處路口。

造型	出沒地點	特色
恐龍	科博館周邊6處路口	紅燈時會有火焰小恐龍
滑板小狗	草悟道等人潮路口	戴墨鏡耍帥過馬路
獨角仙	東勢獨角仙生態公園周邊	呼應全國首座獨角仙主題公園
史努比	全市12處，範圍最廣	跟國際IP《Peanuts》合作

你知道嗎？

- ★ 每個角色都不是隨便選的，而是呼應當地地標——科博館配恐龍、獨角仙公園配獨角仙
- ★ 這麼做是希望等紅燈時大家別只顧著滑手機，多看一眼號誌



老師的小任務

► 找找看家附近的路口，是哪一種造型陪你過馬路？畫下你看到的角色：

道路品質 燙平專案

#種類 道路保養

#負責單位 建設局

有沒有發現有些路走起來特別平順？那是城市在幫馬路「做健康檢查」，把坑洞修平，還會協調各單位一起道路施工、一次補好哦！

修好的路段

4,433 條，加起來 **1,138** 公里
(統計數據截至115/8/22)

專案成果 (統計數據截至115/8/24)



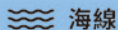
市區

總件數 **2,099** 件
總長度約 **391** 公里
≈ 臺灣大道開 **16.1** 趟



山線

總件數 **857** 件
總長度約 **307** 公里
≈ 雅潭路騎 **50.3** 趟



海線

總件數 **498** 件
總長度約 **186** 公里
≈ 甲埔大道走 **67.9** 趟



屯區

總件數 **985** 件
總長度約 **255** 公里
≈ 沙田路開 **25.6** 趟

挖路協調成果

把32,333件申請整合
成24,680次施工

共減少施工

7,653 次
省下約 **24%**

你知道嗎？

- ★ 燙平工程通常在夜間施工，避開了白天的車流，降低對日常交通的影響
- ★ 「統一挖補」的意思，就是水電、瓦斯、電信盡量約好同一天一起施工
- ★ 透過7千多次的協調，等於減少遠超過7千多次的道路開挖，並且把複雜的工程一次搞定！



老師的小任務

- 走路上學時，留意哪一個路段特別平穩：

智慧清運



#種類 環保App

#負責單位 環保局

#第一次上線 2014年

以前要倒垃圾，只能站在路口猜垃圾車什麼時候會來。現在打開App，就能像查公車動態一樣，看到垃圾車現在開到哪裡、大概還要等多久。

下載次數 已經超過**56萬**次

服務範圍 全市**29**個行政區、**300**多條路線、**2萬**多個清運點

新功能 動態清運查詢，能看到即時位置跟預計抵達時間

你知道嗎？

- ★ 「動態清運查詢」的邏輯，其實跟查公車動態很像，只是主角換成垃圾車
- ★ 全市有2萬多個清運點被畫進系統，幾乎每條巷子都找得到
- ★ 抵達時間會依照實際狀況即時更新



老師的小任務

- 跟家人一起打開App，找找離家最近的清運點，看看垃圾車幾點會到：



親子館智慧化

#種類 親子友善設施／育兒服務數位整合

#首次全面上線 115年5月5日（QR Code入館）／ 115年6月16日（線上借用教玩具、圖書）

以前想借教玩具，得親自跑一趟親子館，現場一個個翻找、登記；入館也要帶證件排隊核對。現在打開「臺中市育兒資源網」，在家就能先看好想借的教玩具跟圖書，預約好時間到館取件；入館也只要用手機出示專屬QR Code，「嗶」一聲就能快速報到，免填紙本表單。

親子館數量

全市 **27** 間（截至115年9月）

QR Code入館

出示個人專屬QR Code即可報到，免填紙本表單

線上借用範圍

教玩具及圖書，透過育兒資源網查詢館藏、線上預約，至指定親子館取件

借用對象擴大

由0-3歲擴大至6歲以下幼兒

借用規則

以「每位幼兒」為單位，每位可借1組教玩具或3本圖書，借期14天

你知道嗎？

- ★ 借用單位改成「以每位幼兒計算」，家裡有兩個幼兒，就能一人一份、分別申請，友善育兒家庭
- ★ 教玩具借閱還有「十大借用排行榜」，提供家長充分參考資訊
- ★ QR Code 報到可省下現場填表、核對證件的流程，把時間留給陪伴孩子的每一刻



老師的小任務

- 一起觀察QR Code報到的流程，或到臺中市育兒資源網／親子館／教玩具及圖書借用，看看最受歡迎的教玩具是什麼：



智慧醫療

#種類 醫療科技

#負責單位 臺中市立老人復健綜合醫院委託
財團法人中國醫藥大學興建經營

#開幕日 2025年12月6日

醫院裡除了醫生、護理師，現在還多了會說話、會巡邏的機器人夥伴「愛寶」。而且在你看不到的地方，AI也在默默助攻，幫助醫療工作更有效率。

愛寶機器人數量 20座

會說幾種語言 中、英、台、日、德、法、西，共7種。

特別功能 語音記錄，訂餐送物、衛教諮詢、遠距視訊查房、環境導覽與照護提醒。

AI幫忙看骨齡

達到小兒專科醫師判讀水準，判讀準確率高達96%

救護車AI心電圖 判讀心肌梗塞

回應只需37秒，準確度99%

你知道嗎？

- ★ AI幫忙判讀中風，能幫醫生省下大約30分鐘的搶救時間
- ★ 救護車上現在也有AI心電圖系統，全市已經有30個消防分隊在用



老師的小任務

- ▶ 問問家裡長輩，有沒有去過用智慧科技的醫院？請他們說說用起來的感覺：_____



未來的教室

#種類 智慧教育

#負責單位 教育局

老師也在學新把戲！除了課本，現在還會帶大家用積木、寫程式、用AI工具動手做，甚至跟科博館合作，把整座博物館變成教室。

科技中心數量 全市8所學校（山、海、屯、中都有）

這學年活動場次 教師研習54場、增能培訓170場、學生課程205場

特別合作 跟國立自然科學博物館推出闖關式課程

你知道嗎？

- ★ 有些STEAM課程結合手機解謎App，一邊闖關一邊學機械原理，超好玩
- ★ 老師們也在學怎麼帶大家用AI學習，但有個重要觀念：AI有時候也會講錯話，要學會查證
- ★ 教育局正在打造一個「臺中市AI知識庫」，讓AI回答問題時更有憑有據



老師的小任務

- ▶ 下次用AI查資料，練習多問一句「這是真的嗎？」，試著找另一個來源確認看看：_____



RoboTaichung

賦予機器人產業新生命

藍濤亞洲 黃齊元總裁

臺中市防衛隊！



讓偏鄉孩子握有
同等的智慧鑰匙

社團法人中華傳統文
化教育推廣協會教育
顧問 李驥老師

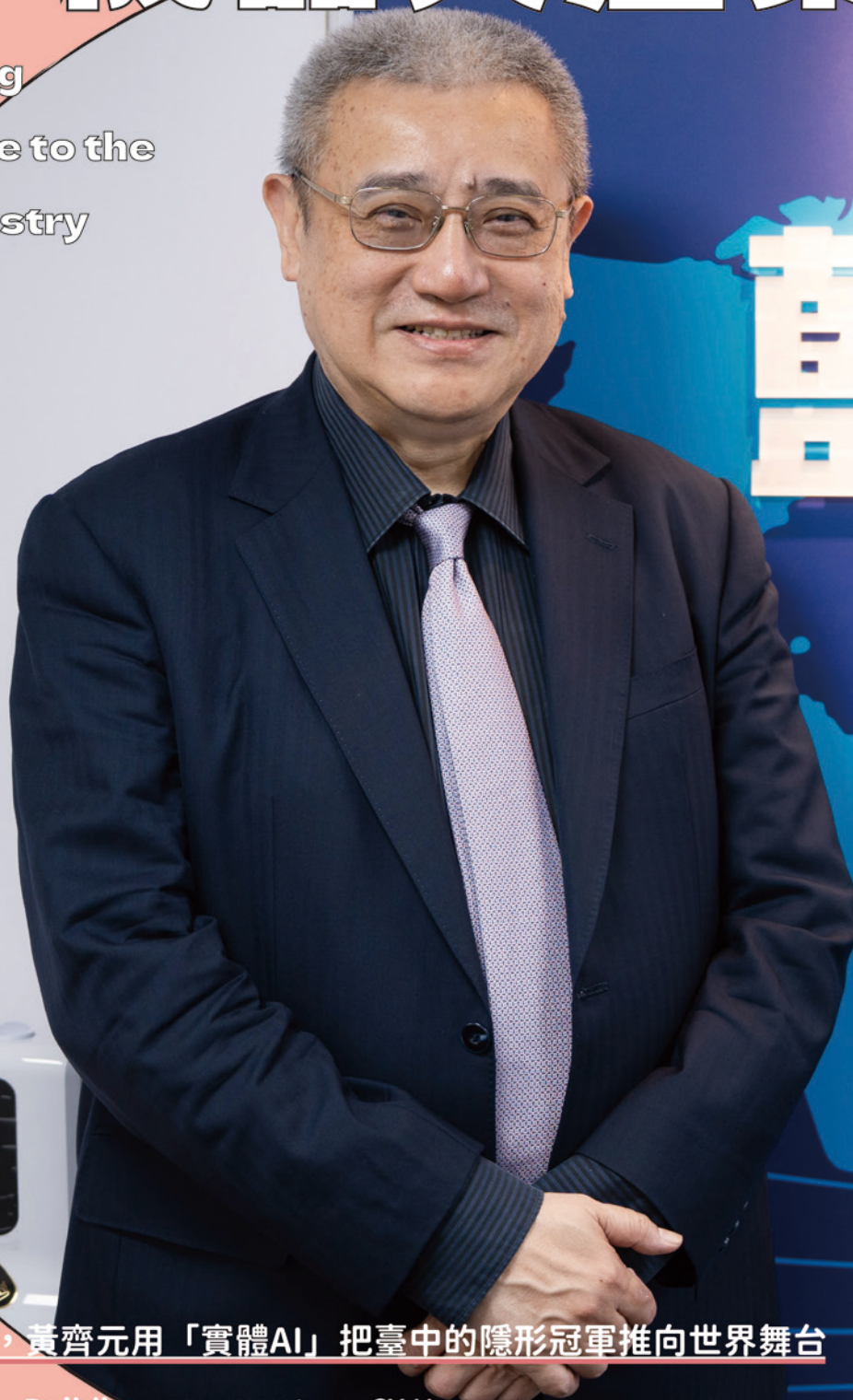
FIGHTING!

RoboTaichung

賦予機器人產業新

RoboTaichung

brings new life to the
robotics industry



搭建生態系統，黃齊元用「實體AI」把臺中的隱形冠軍推向世界舞台

Building an ecosystem, CY Huang uses
“Physical AI” to bring Taichung’s hidden champions to the world stage

生命

濤亞洲

FCC PARTNERS

Shanghai

Taipei

Hong Kong

Singapore

當輝達（NVIDIA）執行長黃仁勳在GTC舞台上喊出「實體AI」（Physical AI）一詞，全球科技版圖瞬間多了一條新戰線。對多數城市而言，這是一場遙遠的競賽；但對臺中來說，卻可能是一次翻身的契機。這座城市擁有全台最密集的精密機械與工具機聚落，卻長期被貼上「傳統產業」的標籤，在半導體與雲端基礎建設的鎂光燈外，略顯沉默而邊緣。

藍濤亞洲總裁黃齊元，同時也是東海大學校友，這幾年選擇從投資銀行家的身分更進一步，走上「搭橋人」的位置。

When NVIDIA CEO Jensen Huang used the term “Physical AI” on the GTC stage, a new front instantly opened in the global technology landscape. For most cities, this is a distant race. For Taichung, it may be a chance to turn the tables. The city has Taiwan’s densest cluster of precision machinery and machine tool companies, yet it has long been labeled a “traditional industry” hub. Outside the spotlight on semiconductors and cloud infrastructure, Taichung has seemed quiet and somewhat sidelined.

CY Huang, President of FCC Partners and an alumnus of Tunghai University, has in recent years chosen to go beyond his identity as an investment banker, embracing a new role as a “bridge builder.”

回饋初心 挖掘臺中被低估的潛力

黃齊元1982年從東海大學企管系畢業，後來到美國史丹佛大學念完MBA，投身投資銀行業超過四十年，做過摩根大通、怡富證券、里昂證券，也待過寶來金融集團，2010年創辦了藍濤亞洲，並擔任台灣併購與私募股權協會創會理事長。

「我對這座城市是有深厚感情的，臺中本身也相當有潛力，所以我決心回饋在地。」黃齊元說。他是道地的臺北人，但在東海念了四年書，這些年又常跟臺中「磐石會」等隱形冠軍企業打交道，讓他對這座城市多了一份牽掛。

在他看來，臺中正夾在雙重、甚至三重壓力之間：第一重是政策資源的失衡，中央資源多半流向北部桃竹的高科技園區與南部臺南、高雄的半導體聚落，臺中相對缺乏政策關愛，卻要承擔污染與供電等外部成本；第二重是美中貿易的夾縫，過去不少「中國概念股」企業在美中競爭下轉型壓力沉重，也因缺乏半導體話題性，在新一波企業赴美投資熱潮中顯得相對沉寂。

第三重，則是科技標籤的缺失——臺中擁有捷安特、喬山、寶成等世界級隱形冠軍，以及實力雄厚的工具機與零組件產業，但外界印象始終停留在「傳統產業」，而不是「高科技」。「傳統產業不該再用低附加價值製造來定位自己，」他強調，該做的是把實體AI與人形機器人這類新技術用進去，讓製造升級成「智造」。



黃齊元做了四十年投資銀行，這幾年把重心從資本操作轉向回饋臺中，串連起產、官、學、研、金五方資源。



今年4月，美國「好奇心實驗室」團隊來台，與東海大學「智慧碳中和園區」簽署合作備忘錄，是台中機器人聯盟跨國連結的重要一步。

用「實體AI」重新定義臺中

黃齊元把黃仁勳提出的「實體AI」概念，當成臺中重新定義自己的機會。實體AI包含四大領域：自駕車、機器人、無人機、智慧製造。自駕車在台灣發展受限，但其餘三項正是臺中的強項。他有一套好記的說法：「機器人是會動的AI，無人機是會飛的機器人，自駕車則是會跑的機器人。」

「第一要有平台、要有聯盟；第二要走向國際化；第三要透過AI完成升級。」黃齊元歸納出臺中切入這場賽局的三個步驟，也成了他後續一連串行動的骨架。今年，「台中機器人聯盟」（RoboTaichung）宣告成立。「我的角色是促成者、Facilitator，不是領導者。」黃齊元說。他把投資銀行家整合資源的本事，用來串接產、官、學、研、金五方，成員包括新漢、創博、上緯國際、耐能等企業，以及東海、中興、中國醫藥大學等校的機器人研發團隊。黃齊元打造了一個開放平台，任何想跟國際接軌、想轉型的企業都能加入。

今年四月，這個布局有了重要進展：美國喬治亞州的頂級智慧園區「好奇心實驗室」團隊來台，宣布支持RoboTaichung的合作倡議，並與東海大學「智慧碳中和園區」簽署合作備忘錄。RoboTaichung目前已與「美國喬治亞州機器人聯盟」（RoboGeorgia）、歐洲數個機器人研發中心，以及新加坡南洋理工大學、越南自動化產業協會建立合作關係，讓臺中的隱形冠軍有機會站上國際舞台。

把喬治亞理工的資源搬回臺中

為了讓這些跨國連結長期化，黃齊元去年在臺中成立「亞橋基金會」，對接美國排名頂尖的喬治亞理工學院。亞特蘭大所在地擁有全球最大的空港，也是達美航空總部與軍工大廠洛克希德馬丁的根據地，航太與機器人資源相當豐富。好奇心實驗室成立於2019年，占地四百公頃，被視為美國最頂級的智慧園區之一，本質上是一座讓新創企業實地驗證技術的「Living Lab」。

合作之後，亞橋基金會更進一步在該園區內打造專屬的「台灣機器人聚落」(Taiwan Robotics Hub)，成為第一個落地美國的台灣特定產業新創園區，讓台灣的機器人公司能在當地直接進駐，就近取得市場資源。今年五月，立法院副院長已在基金會安排下參訪喬治亞理工；八月，黃齊元帶台中機器人聯盟(RoboTaichung)企業赴美，參加喬治亞機器人聯盟年度高峰會。

東海大學：把國際資源搬進臺中校園

東海大學一直是黃齊元實踐願景的基地。早在2018年，他就協助母校成立「產業智慧轉型中心」



黃齊元陪同立法院副院長參訪美國喬治亞州「好奇心實驗室」，亞橋基金會、東海大學、喬治亞理工學院與RoboTaichung在此正式串連成一張跨國合作網絡。

(TISC)，這是台灣第一個以「智慧轉型」而非「數位轉型」命名的學術中心。「數位轉型只是把東西搬上雲端，智慧轉型還要加上生成式AI跟大數據分析。」他解釋兩者的差別。同一年，他也促成東海與亞馬遜AWS簽署合作備忘錄，成立橫跨資工、工工、電機、企管、資管五學系的「雲創學院」，讓這所以人文見長的文理型大學，成為全台首創擁有雲端學院的學府，一度引起各界矚目。

如今，東海校園裡設有「智慧碳中和園區」作為實驗場域，未來將透過5G連線與美國好奇心實驗室串接，讓企業能進行跨國研發試驗。今年五、六月，基金會也推動東海與喬治亞理工合開跨國AI課程，由三位美方教授親自線上授課，吸引中部25家企業主參與。

機器人無所不在，下一步是數百億的園區計畫

黃齊元引用SpaceX的創始人馬斯克「機器人數量終將超越人類」的說法，描繪實體AI落地生活的下一步：從工廠端的B2B應用，延伸到家庭照護的B2C場景，機器人被寄予解決長照人力缺口、優化智慧醫療與智慧物流的期待，尤其在少子化衝擊下，機器人補位人力的角色只會愈來愈重。與此同時，美中競爭下全球正加速打造「非紅供應鏈」，這對臺中的機器人與無人機產業而言，是一個規模不小的機會窗口。

他也透露下一步的重磅計畫：將在李國鼎科技發展基金會支持下，於東海大學尚未開發的校地上，打造一座耗資達數百億台幣的「李國鼎AI智慧生態園區」。東海擁有133公頃廣闊腹地，具備成為國際級AI應用場域的條件，這也將是他推動臺中乃至台灣轉型的最重要藍圖。黃齊元投資銀行家整合資源的能力，從資本市場搬到機器人生態系，試圖讓臺中在實體AI的浪潮中，從被忽視的夾縫，走向改變世界的關鍵位置。

「改變自己、改變企業、改變世界。」這是他就讀史丹佛商學院時牢記至今的院訓，如今也成了他在臺中這場實體AI突圍戰裡，最貼切的註腳。

Returning to his roots and uncovering Taichung's underrated potential

CY Huang graduated from the Department of Business Administration at Tunghai University in 1982, then earned an MBA from Stanford University in the United States. He has worked in investment banking for more than 40 years, with experience at JPMorgan, Jardine Fleming, CLSA, and Polaris Financial Group. In 2010, he founded FCC Partners and also served as the founding chairperson of the Taiwan M&A and Private Equity Council.

"I have deep feelings for this city, and Taichung itself has great potential. That is why I am determined to give back locally". Huang says. He is a Taipei native, but he spent four years studying at Tunghai University. In recent years, his frequent interactions with many of Taichung's hidden champion companies, including members of The Entrepreneur Club, have further deepened his connection to the city.

In his view, Taichung is caught between two, or even three, layers of pressure. The first is an imbalance in policy resources. Central government resources mostly flow to the high-tech parks in Taoyuan and Hsinchu in the north and the semiconductor clusters in Tainan and Kaohsiung in the south. Taichung receives relatively little policy attention, yet it still bears external costs such as pollution and power supply pressure. The second is the squeeze from U.S.-China trade tensions. Many companies once seen as "China concept stocks" face heavy pressure to transform amid U.S.-China competition, and because they lack the buzz of the semiconductor sector, they appear relatively quiet in the latest wave of companies investing in the United States.

The third layer is the lack of a technology label. Taichung is home to world-class hidden champions such as Giant, Johnson Health Tech, and Pou Chen, along with strong machine tool and component industries. Yet the outside world still sees it as "traditional industry", not "high-tech". "Traditional industries should no longer define themselves by low-value added manufacturing", he stresses. What they should do is bring in new technologies such as Physical AI and humanoid robots, and upgrade manufacturing into smart manufacturing.

Redefining Taichung through "Physical AI"

Huang sees Jensen Huang's idea of "Physical AI" as an opportunity for Taichung to redefine itself. Physical AI covers four major fields: autonomous vehicles, robots, drones, and

smart manufacturing. Autonomous vehicles face limits in Taiwan, but the other three are exactly where Taichung is strong. He has an easy way to explain it: "Robots are AI that can move, drones are robots that can fly, and autonomous vehicles are robots that can run".

"First, we need a platform and an alliance. Second, we need to go international. Third, we need to complete the upgrade through AI". Huang sums up Taichung's entry into this race in three steps, which have become the backbone of his later actions. This year, the Taichung Robotics Alliance, RoboTaichung, was launched. "My role is a facilitator, not a leader". Huang says. He has applied the resource integration skills of an investment banker to connect industry, government, academia, research, and finance. Members include companies such as NEXCOM, Transcend Robotics, Swancor, and Kneron, as well as robotics research teams from Tunghai University, National Chung Hsing University, and China Medical University. Huang has created an open platform where any company that wants to connect internationally or transform can take part.

This April, the plan made major progress. A team from Curiosity Lab at Peachtree Corners, a leading smart city living lab in Georgia, visited Taiwan, announced support for RoboTaichung's cooperation initiative, and signed a memorandum of understanding with Tunghai University's Smart Carbon Neutral Campus. RoboTaichung has now built partnerships with RoboGeorgia, several robotics research and development centers in Europe, Nanyang Technological University in Singapore, and the Vietnam Automation Association, giving Taichung's hidden champions a chance to step onto the international stage.

Bringing Georgia Tech resources back to Taichung

To make these cross-border links long-term, Huang established the GeoAsia Foundation in Taichung last year to connect with the Georgia Institute of Technology, one of the top-ranked technology universities in the United States. Atlanta is home to the world's largest airport, as well as the headquarters of Delta Air Lines and major defense contractor Lockheed Martin. Its aerospace and robotics resources are extremely strong.

東海大學、喬治亞理工學院與亞橋基金會三方代表簽署合作備忘錄，為台中機器人聯盟的跨國佈局立下重要里程碑。





台中機器人聯盟 (RoboTaichung) 倡議大會現場，東海大學、臺中市政府、工研院、中國醫藥大學，以及上緯投控、新漢、創博等企業齊聚一堂，宣告聯盟正式成立。

Curiosity Lab was established in 2019 and covers 400 hectares. It is seen as one of the top smart city living labs in the United States, essentially giving startups a real-world environment to test and validate technologies.

After the partnership began, GeoAsia Foundation took a further step by building a dedicated Taiwan Robotics Hub inside the lab. It became the first U.S.-based startup zone dedicated to a specific Taiwan industry, allowing Taiwanese robotics companies to move in directly and access market resources nearby. This May, Legislative Yuan Vice President visited Georgia Tech under arrangements by the foundation. In August, Huang led RoboTaichung member companies to the United States to attend the RoboGeorgia Summit.

**Tunghai University:
bringing international resources into a Taichung campus**

Tunghai University has always been the base where Huang puts his vision into practice. As early as 2018, he helped his alma mater establish the Tunghai Industry Smart Transformation Center, TISC. It was Taiwan's first academic center named after "smart transformation" rather than "digital transformation". "Digital transformation only moves things to the cloud. Smart transformation adds generative AI and big data analysis", he explains. That same year, he also helped Tunghai sign a memorandum of understanding with Amazon Web Services and establish the Cloud Innovation School, spanning the departments of Computer Science, Industrial Engineering, Electrical Engineering, Business Administration, and Information Management. This liberal arts and sciences university, long known for its humanities strengths, became Taiwan's first university with a cloud academy, drawing wide attention at the time.

Today, Tunghai's campus has a Smart Carbon Neutral Campus as a testing site. Going forward, 5G connectivity with Curiosity Lab in the United States will enable companies to conduct cross-border R&D trials. In May and June this year, the foundation also facilitated a cross-border AI course jointly

offered by Tunghai University and Georgia Tech. Three U.S. professors taught the course online, attracting business owners from 25 companies in central Taiwan.

**Robots are everywhere,
and the next step is a multibillion-dollar campus plan**

Huang cites SpaceX founder Elon Musk's view that the number of robots will eventually surpass the number of humans, using it to describe the next stage of Physical AI in daily life. Applications will move from B2B factory settings into B2C home care scenarios. Robots are expected to help ease long-term care labor shortages, improve smart healthcare, and upgrade smart logistics. Under the impact of a falling birth rate, their role in filling labor gaps will only grow. At the same time, U.S.-China competition is accelerating the global push to build non red supply chains. For Taichung's robotics and drone industries, this is a major window of opportunity.

He also revealed his next major initiative: with support from the K.T. Li Foundation for the Development of Science and Technology, he plans to develop the "K.T. Li AI Smart Ecosystem Park" on currently undeveloped land at Tunghai University, with an investment of tens of billions of NT dollars. With 133 hectares of land, Tunghai has the space and potential to become a world-class hub for AI applications. The project will also serve as the centerpiece of his vision for driving the transformation of Taichung and, ultimately, Taiwan.

Huang has brought his investment banking skills in resource integration from the capital markets into the robotics ecosystem, aiming to help Taichung move from an overlooked gap in the Physical AI wave to a key position where it can help change the world.

"Change yourself, change your company, change the world". This is the school motto he has remembered since his time at Stanford Graduate School of Business. Today, it has also become the most fitting note to his Physical AI breakthrough effort in Taichung.

讓偏鄉孩子握有 同等的智慧鑰匙

Giving Rural Children the Same Key to Smart Learning

從「優客李林」到AI教育：李驥用語言邏輯打破偏鄉教育疆界

From Yu Ke Li Lin to AI education:
Lee Chi uses language logic to break down the boundaries of rural education



曾以「優客李林」紅遍樂壇、同時深諳IT資訊的李驥，如今跨足AI、心理諮商與傳統文化，投身偏鄉教育。臺中市數位發展局、東海大學於山城新成國小攜手舉辦獲得好評的「2026 AI超人教育營」，李驥在其中將AI科技與情緒教育結合。透過李驥，看政府與民間力量如何以科技與人文交織出智慧城市新藍圖，打破地域限制，讓因材施教的教育真正落地。

Lee Chi, who rose to fame as one half of Yu Ke Li Lin, one of Taiwan's best-known pop duos. And also has deep IT expertise, has now moved into AI, counseling, and traditional culture, devoting himself to rural education. The Digital Affairs Bureau of Taichung City Government and Tunghai University jointly held the well-received "2026 AI Superhero Education Camp" at Shin cheng Elementary School in Taichung's mountain area, where Lee Chi brought AI technology together with emotional education. Through Lee Chi, we see how government and civic partners are weaving technology and the humanities into a new smart city blueprint, breaking geographic limits and making adaptive education truly work on the ground.



找到科技、心理與傳統文化的交會點

外界或許好奇，一位寫歌的音樂人，如何跨足心理諮商，又如何回頭與AI工具相結合？

「這在抽象層面上，其實一點都不跳脫，因為世界的結構就是語言的結構。」李驥眼神敏銳且堅定地說明。有著歌手、IT工程師、心理諮商師與教師等背景的他，指出心理諮商是在傾聽對方語言中「不合邏輯」的部分，藉此梳理背後的壓抑與情緒；而寫程式則是聽懂需求、分析邏輯，進而提出解決方案。無論是感性的文史哲還是理性的資訊工程，核心都建立在「語言邏輯」之上。

正因如此，AI之所以能給予人類極高的情緒支持，正是因為它讀遍了全世界的文獻，將語言邏輯的演算法發揮到極致。而嚴謹的文字與語言，正是邏輯推演與控制AI提示詞的共同基礎。

當這種強調語言邏輯的科技，碰上傳統因材施教的理念時，李驥順勢提出了前沿的「無結構教學」概念。他指出，台灣各級政府在硬體上的建置，已大幅拉近了城鄉的資訊鴻溝，但在軟體思維上，教育現場仍常受限於齊頭式的常模考核。在同一個班級裡，每個孩

子的發展節奏本就存在個體差異，傳統教育用同一份期中、期末考卷為所有人打分數，往往讓發展稍慢的孩子產生自卑感，甚至激發強烈的情緒對抗。

「導入AI代理人（AI Agent）的概念後，學習將徹底個性、個人化。」李驥解釋，當孩子與專屬的AI代理人透過任務導向型遊戲進行互動時，系統在過程中就已經完成了評量，能精準辨識出孩子在數學、國語或自然等不同學科的實質進度，並依照其節奏給予刺激。學得快的能盡快往上走，需要時間的孩子，也能在不被催促、沒有自卑感的環境下前進，這正是AI帶給教育現場最大的平等權力，真正打破了年級的僵化結構。

山城現場：偏鄉孩子的意外韌性

這套適性發展的理念並非空中樓閣，而是早已在臺中山城的教學現場初見眉目的實踐方向。在與數位局合作的偏鄉教育營隊中，李驥實地觀察到，偏鄉孩子在溝通表達上或許較為害羞，但他們的好奇心、耐心與情緒力往往比都會區孩子更具韌性。

面對有些家長對3C產品與AI恐造危害的擔憂，李驥認為：「任何學習都帶著風險。」與其因未知而盲目阻止，不如在教育體系中引導孩子正確使用。現場經驗

顯示，互動性強的AI與遠距教學媒介，能將學生的課堂專注力大幅提升至四分之三的時間以上，這對偏鄉孩子而言，正是極具吸引力的稀缺教育刺激。

一首用音樂寫成的畢業製作

李驥也分享了自身教學現場的深刻案例：他曾帶領一位與體制強烈衝突、情緒極不理想的六年級學生。該生雖然在數理上遇到障礙，卻具備極高的文字天賦。李驥決定打破傳統排名的評量結構，改以「畢業製作」代替考試，引導孩子將滿腹的情緒與心情寫成歌詞，兩人來回討論修改，最終透過AI協助完成旋律，創作出三首屬於孩子自己的歌曲。

當孩子聽到自己的內心世界被音樂具象化，不僅獲得了巨大的成就感，也變得願意與家人分享，化解了原本瀕臨破碎的親子與師生關係。

「音樂就是個人的情緒，是一個人自我救贖與調整的絕佳方法。」李驥溫暖地說，這就是科技為人性服務的最好證明。

從資訊中心到數位發展局：臺中的智慧治理布局

移居臺中已有五年的李驥，如今也高度肯定臺中市政府將原本隸屬研考會的資訊中心升格為數位發展局的戰略遠見。他強調：「AI不是都會區的專利，它正是打破地理疆界、讓偏鄉孩子與世界同步接軌的關鍵工具。」對於臺中城市的數位治理，他也因此充滿期待。

從偏鄉孩子的教育理念，聊到智慧城市的運作藍圖，李驥將科技的理性與人文的感性融為一體。雖然當前的教育現場不論家長或老師，都正處於被時代浪潮推著走的巨大焦慮中，但李驥卻感到無比興奮。他認為，臺中市政府的投入與民間力量的緊密結合，正讓這座城市站在最大一波教育改革的浪尖上。

「我們畢竟是要給孩子迎戰未來的世界。」李驥說。透過科技的理性能量與人文的感性溫度，臺中的偏鄉孩子即使身在地理的遠端，也將握有同等的智慧鑰匙，勇敢地走向未來世界。



Finding where technology, psychology,
and traditional culture meet

People may wonder how a songwriter and musician moved into counseling, and then connected it back to AI tools.

“At an abstract level, this is not a leap at all, because the structure of the world is the structure of language”. Lee Chi explains this with a sharp and steady gaze. With a background as a singer, IT engineer, counselor, and teacher, he says counseling means listening for the “illogical” parts in someone’s language, then sorting out the repression and emotions behind them. Programming is about understanding needs, analyzing logic, and finding solutions. Whether it is the emotional world of literature, history, and philosophy, or the rational world of information engineering, the core is built on “language logic”.

That is why AI can offer such strong emotional support. It has read texts from around the world and pushed the algorithms of language logic to the limit. Precise words and language are the common foundation for logical reasoning and for guiding AI prompts.

When technology that emphasizes language logic meets the traditional idea of teaching each student according to their needs, Lee Chi naturally arrives at the forward-looking idea of “unstructured teaching”. He says governments at all levels in Taiwan have greatly narrowed the urban-rural digital divide through hardware development. But in terms of mindset and teaching design, classrooms are still often limited by one-size-fits-all, norm-based assessment. In the same classroom, every child develops at a different pace. Traditional education uses the same midterm and final exams to grade everyone, which often makes children who need more time feel inferior, and can even trigger strong emotional resistance.

“Once the idea of an AI agent is introduced, learning will become fully individualized and personalized”. Lee Chi explains that when children interact with their own AI agents through mission-based games, assessment is already completed in the process. The system can accurately identify each child’s real progress in subjects such as math, Mandarin, and science, then give the right stimulation at that child’s own pace. Fast learners can move ahead quickly, while children who need more time can keep going without pressure or shame. This is the greatest form



接受採訪時，李驥談起如何從音樂與心理諮商的背景，一路走到用AI協助偏鄉孩子學習的歷程。

of equality AI can bring to education, because it truly breaks the rigid structure of grade levels.

In the mountain area: the unexpected resilience of rural children

This idea of adaptive development is not just theory. It is already taking shape in classrooms in Taichung's mountain area. In the rural education camp held with the Digital Affairs Bureau, Lee Chi observed that rural children may be more shy when communicating, but their curiosity, patience, and emotional strength are often more resilient than those of children in urban areas.

In response to parents who worry that digital devices and AI may cause harm, Lee Chi says, "All learning comes with risks". Rather than blocking children blindly because of the unknown, it is better to guide them within the education system and teach them how to use these tools properly. On-site experience shows that highly interactive AI and remote learning tools can raise students' classroom focus to more than three quarters of the class period. For rural children, this is a rare and highly engaging form of learning stimulation.

A graduation project written in music

Lee Chi also shares a powerful case from his own teaching experience. He once worked with a sixth grader who was in deep conflict with the system and in a very poor emotional state. Although the student struggled with math and science, the child had a strong gift for words. Lee Chi decided to break away from the traditional ranking-based assessment structure and replace exams with a "graduation project". He guided the child to turn deep emotions into lyrics. The two discussed and revised the words back and forth, and eventually used AI to help complete the melodies, creating three songs that truly belonged to the child.

When the child heard their inner world take shape through music, they gained a huge sense of achievement and became willing to share it with family. This helped repair parent child and teacher-student relationships that had nearly fallen apart.

"Music is personal emotion. It is an excellent way for a person to heal and adjust". Lee Chi says warmly that this is the best proof that technology can serve humanity.

From the Information Center to the Digital Affairs Bureau: Taichung's smart governance strategy

Lee Chi, who moved to Taichung five years ago, highly commends the Taichung City Government's strategic vision in upgrading the Information Center, originally under the Research, Development and Evaluation Commission, into the Digital Affairs Bureau. He stresses, "AI is not the exclusive domain of urban areas. It is a key tool for breaking down geographic barriers and helping rural children keep pace with the world". That is why he has high expectations for Taichung's digital governance.

From ideas on rural education to the blueprint for a smart city, Lee Chi brings together the rational power of technology and the warmth of the humanities. Although parents and teachers today are all facing deep anxiety as they are pushed forward by the tide of the times, Lee Chi feels deeply excited. He believes the Taichung City Government's investment, together with close support from civic partners, is placing the city at the forefront of a major wave of education reform.

"After all, we are preparing children to face the future world". Lee Chi said. With the rational power of technology and the human warmth of the humanities, rural children in Taichung, no matter how geographically remote they may be, will hold the same key to smart learning and step bravely into the future.



“Be Curious,
Be Caring”

友善與好奇”



► 讓城市移動更直覺

串聯捷運、公車、自駕巴士與數位服務，打造真正以人為本的移動城市

► 用科技守護每一顆好奇心

如何讓孩子在動手做與獨立思考中探索世界



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“專訪 | 交通局長 葉昭甫”

11

Transportation Bureau Director-General Chao-Fu Yeh

臺中交通局以「交通任意門」為核心理念，逐步把捷運、轉運中心等硬體，串接成貼近民眾需求的軟體服務：豐原、水滴、臺中、烏日四大轉運中心重新定義「山海屯城」的移動邏輯；小黃公車與梨山幸福巴士，讓資源有限的偏鄉也不被落下；水滴經貿園區的自駕巴士示範計畫，把臺中推向全臺自動駕駛應用的前沿。「民眾為什麼需要移動？」回到最核心的叩問，本篇與交通局長葉昭甫深入對話，梳理這座智慧城市，如何一步步落實在市民日常。

With “i-Doors” as its core idea, the Taichung City Transportation Bureau is gradually integrating infrastructure such as the MRT and transit centers with services designed around people's needs. The four major transit centers in Fengyuan, Shuinan, Taichung, and Wuri are redefining how people move across the mountain, coastal, township, and urban areas. Taxi Bus services and the Lishan Happiness Bus make sure rural areas with limited resources are not left behind. The autonomous bus demonstration project in Shuinan Trade and Economic Park is also pushing Taichung to the forefront of autonomous driving applications in Taiwan. Why do people need to move? Returning to this most basic question, this article speaks in depth with Transportation Bureau Director-General Chao-Fu Yeh to trace how this smart city is taking shape step by step in residents' daily lives.

Making City Mobility more Intuitively

Connecting the MRT, buses, autonomous buses,
and digital services to build a truly people-centered mobility system





從一扇任意門開始的想像：任意門命名的核心信念

任意門一開，目的地就到了，這同時也是民眾在出行時最美好的想像。生活與交通的密切關係，而葉昭甫也舉了一個生活化的例子：學生如果因為公車誤點十分鐘，就可能趕不上學校的第一堂課，甚至得趕快打電話給父母求救。一段十分鐘的誤點，牽動的其實是一整個家庭當天的行程安排。

為了促成這樣如任意門般的便利性，臺中市提出大臺中生活圈之交通發展願景幸福、便利－臺中，我們的家（HOME）」，包含Humanity人本交通、Opportunity發展契機、Mobility好行城市、Ecology生態永續等面向，讓交通成為幸福之門。為落實這個願景，交通局進一步提出「交通任意門（i-Doors）」策略，透過創新（Innovation）、整合（Integration）、智慧（Intelligence）三大理念，把城市每個角落彼此串連，並深化「SWEET」五項核心價值，從安全（Safe）、生

活化道路（Woonerf）、效率（Efficient）、生態永續（Ecology）到科技（Technology），讓穩定的公共運輸系統及優化市民在移動與轉乘上的便利體驗，透過綠色運具的借還更直覺、體驗更友善，將「民眾微笑」作為衡量施政成效的指標，實踐「交通任意門」的低碳生活美學。

從硬體到軟體：轉運中心的化繁為簡

有了捷運，問題就解決了嗎？談及大眾運輸建設的想像，葉昭甫不這麼認為。他觀察，多數城市的核心其實不在單一路網夠不夠密，而在於「你怎麼讓這件事情化繁為簡」。以豐原轉運中心為例，過去民眾要轉乘客運得記住哪家公司在哪個車站，如今只要先到轉運中心，就能延伸到各個方向。搭配水滴、臺中、以及正在建設的烏日，透過三座轉運中心，交通局把「山、海、屯、城」四種不同區位的需求，收攏進清楚的入口點。

水滴經貿園區自駕巴士示範計畫，透過車、路、網、人、雲整合驗證，讓未來交通不只是概念，而是真正行駛在城市中的日常。



轉運中心重新整合不同客運路線，讓民眾不必記住各家客運位置，只需抵達同一座轉運中心即可完成轉乘。



智慧停車系統透過AI辨識與地磁感測，即時提供停車資訊，降低尋找車位所耗費的時間。

葉昭甫分享到：「民眾在選擇交通時，最重要的是便利性、舒適性。」捷運路網要從單一路線逐步發展為十字路網，再由轉運中心銜接公車、YouBike等多元運具，落實無縫轉乘。而軟體服務的落地，則會體現在市民實際感受得到的細節上，如自2021年起推動的「臺中市民限定交通卡」，讓市民搭乘市區公車享有「十公里內免費、超過十公里最高10元」的雙十優惠，累計已有超過200萬人完成綁定，YouBike則透過「倍增計畫」持續擴大於軌道運輸、大專院校與商圈周邊的設站密度，讓抵達目的地最後一哩路更加輕鬆。

城鄉不掉隊：小黃公車與幸福巴士

偏鄉的公共運輸，考驗的不是技術，而是資源怎麼被重新分配。葉昭甫提到，計程車補位公車路線的「小黃公車」，本質上是一種剩餘資源的再利用，讓偏鄉地區的需求被看到。梨山山區居民自家車，轉型成「幸福巴士」更是一個經典的例子。這個過程並不容易，「在地的問題，就是要在地解決。」葉昭甫說，市府透過與在地社區發展協會合作，確保長久的經營。同時也將成功的案例複製到需要的偏鄉，再根據各地的需求應變，比如原住民部落學生就學的專車，靈巧的根據在地有長照接送的特性安排來回的班次。目前小黃公車已在全市22個行政區開闢26條路線，梨山幸福巴士營運滿意度更高達9成3，證明偏鄉交通的解方，往往藏在既有資源的重新整合裡。

走向自駕：水滴，城市的生活實驗場

從民國90年臺中率先導入GPS的智慧公車、到近年結合地磁與AI辨識的智慧停車，葉昭甫談科技化的邏輯始終如一：「先把資訊透明化，不要讓民眾跟政府之間有資訊落差。」水滴經貿園區，便是這套邏輯走向自駕巴士的下一步。選擇水滴，除了因為它是開放型場域、位處城市發展核心卻較不會影響到原住宅聚落，更因為多元場域夠豐富，才有機會壓縮驗證的時間。

目前自駕巴士歷經三期測試，兩期載客試乘已累積超過5,000人次，滿意度達9成以上，技術上採「車、路、網、人、雲」整合架構，車端負責自動駕駛與感測，路側布建AI攝影機與通訊設備，雲端則彙整運行資料作為

優化依據，避免把所有智慧全部灌在車上而推升成本。115年推動的水滴自駕巴士接駁暨車路聯網驗證測試計畫，更首度將路線延伸至園區外，串聯捷運文華高中站，打造約7.7公里的智慧接駁示範路廊。

安靜的移動，最友善的臺中交通

回望這場對話的起點，其實只是一個簡單的提問：怎麼把人從A點安全、順心地帶到B點。葉昭甫說：「以前我們做了很多硬體，接下來就是要用軟體，把需求跟供給串得更緊密。」未來三到五年，隨著轉運中心與捷運路網逐步完善，「台中Go」也將串起捷運、公車、YouBike乃至未來的自駕接駁車，實現一碼在手、服務全有的無縫體驗。

從轉運中心化繁為簡的思考，到今天水滴園區裡真正上路的自駕巴士，臺中交通局想做到的，或許正是讓「移動」這件事，安靜地消失在市民的日常裡，卻又無所不在地守護著每一段回家的路。

An idea that begins with an anywhere door: the core belief behind the name

Open the anywhere door, and you are already at your destination. That is also the ideal people hope for when they travel. To show how closely life and transport are connected, Yeh gives a simple everyday example. If a student's bus is ten minutes late, the student may miss the first class of the day and even have to call parents for help. A ten-minute delay can affect an entire family's schedule for the day.

To make travel as convenient as an anywhere door, Taichung City proposed the Greater Taichung living circle transport development vision, "A Happy and Convenient Taichung, Our Home", or HOME. It covers Humanity, people-centered transport; Opportunity, development opportunities; Mobility, an easy-to-travel city; and Ecology, ecological sustainability, making transport a door to happiness. To realize this vision, the Transportation Bureau further introduced the "i-Doors" strategy. Through the three ideas of Innovation, Integration, and Intelligence, it connects every corner of the city and deepens the five core SWEET values: Safe, Woonerf, Efficient, Ecology, and Technology. The goal is to build a stable public transport system, make travel and transfers more convenient, make borrowing and returning green transport tools more intuitive and user-friendly, and use "people's smiles" as a measure of policy results, bringing the low-carbon lifestyle vision of "i-Doors" into daily life.

From hardware to software: making transit centers simple

Does the MRT Solve All Problems? When talking about public transport development, Yeh does not think so. He observes that for most cities, the key is not whether one single network is dense enough. The real question is "how do you make something complex simple". Take Fengyuan Transit Center as an example. In the past, people had to remember which bus company was at which station when making transfers. Now, they only need to go to the transit center first, then connect in different directions. Together with Shuinan, Taichung, and Wuri, which is under construction, the Transportation Bureau is using these transit centers to bring the needs of the mountain, coastal, township, and urban areas into clear entry points.

Yeh says, "When people choose how to travel, convenience and comfort matter most". The MRT network needs to grow from a single line into a cross-shaped network, then use transit centers to connect buses, YouBike, and other transport options so seamless transfers can truly happen. Soft services take shape in the small details people notice every day. Since 2021, the "Taichung Resident Exclusive Transportation Card" has allowed residents to enjoy the Double Ten bus fare discount on city buses, with rides free within the first 10 kilometers and capped at NT\$10 beyond that. More than 2 million people have linked their cards. YouBike has also continued to add stations through its "Doubling Plan", especially around rail transit stations, colleges and universities, and shopping districts, making the last mile easier.

Leaving no urban or rural area behind: Taxi Bus and Happiness Bus

For public transport in rural areas, the real test is not technology. It is how resources are redistributed. Yeh notes that the "Taxi Bus", which uses taxis to fill gaps in bus routes, is essentially a way to reuse spare resources and make the needs of rural areas visible. The use of local residents' private vehicles in the Lishan mountain area to provide "Happiness Bus" services is an even more notable example. The process has not been easy. "Local problems need local solutions". Yeh says the city government works with local community development associations to ensure long-term operations. At the same time, successful models are copied to rural areas that need them, then adjusted to local needs. For example, shuttle services for Indigenous students are arranged flexibly based on local long-term care transport patterns and round-trip needs. The Taxi Bus now runs 26 routes across 22 districts in the city, while the Lishan Happiness Bus has reached an operating satisfaction rate of 93%. This proves that solutions for rural transport are often found in reorganizing existing resources.

Moving toward autonomous driving: Shuinan as the city's living lab

From Taichung's early introduction of GPS smart buses in 2001 to recent smart parking systems that combine geomagnetic sensing

with AI recognition, Yeh's logic for technology has stayed the same: "First make information transparent, so there is no information gap between the public and the government". Shuinan Economic and Trade Park is the next step in applying this logic to autonomous buses. Shuinan was chosen not only because it is an open site at the core of urban development that causes less impact on existing residential communities, but also because its diverse settings make it possible to shorten the time needed for testing and verification.

So far, the autonomous bus has gone through three phases of testing. Two passenger trial phases have recorded more than 5,000 rides, with satisfaction above 90%. Technically, the project uses an integrated "vehicle, road, network, people, and cloud" framework. The vehicle handles autonomous driving and sensing. Roadside equipment includes AI cameras and communication devices. The cloud gathers operating data for optimization, avoiding the higher cost of putting all intelligence into the vehicle itself. The Shuinan autonomous bus shuttle and vehicle-to-infrastructure connected verification test project, promoted in 2026, will for the first time extend the route beyond the park to connect with Wenhua Senior High School Station on the Taichung MRT, creating a smart shuttle demonstration corridor of about 7.7 kilometers.

Quiet mobility, Taichung's friendliest transport

Looking back at the starting point of this conversation, it really began with one simple question: how do we get people safely and smoothly from point A to point B? Yeh says, "In the past, we built a lot of hardware. Next, we need to use software to connect demand and supply more closely". Over the next three to five

years, as transit centers and the MRT network continue to improve, Taichung Go will also connect the MRT, buses, YouBike, and future autonomous shuttles, creating a seamless experience where one code gives access to all services.

From the idea of using transit centers to make travel simpler to the autonomous buses now running in Shuinan, what the Taichung City Transportation Bureau may be trying to do is make "mobility" quietly disappear into everyday life, while still being everywhere, watching over every journey home.



「台中Go」整合公車、捷運、
YouBike等交通資訊，逐步朝向一碼
在手、無縫移動的智慧交通服務。

葉昭甫提出「交通任意門
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用科技守護每一顆好奇心

如何讓孩子在

動手做

與

獨立思考中探索世界

“專訪 | 教育局長 蔣偉民”

Education Bureau Director-General Chiang Wei-Min

近年來，「STEAM教育」在校園裡愈來愈常被提起，它是科學（Science）、科技（Technology）、工程（Engineering）、藝術（Art）與數學（Mathematics）五個領域的縮寫，主張打破學科之間的界線，讓孩子在動手實作、跨領域整合的過程中學習。

從一場遊戲開始，孩子在拼裝機器人、設計關卡、或和同伴討論怎麼讓珠子滾得更快的過程，可能就不知不覺就走進了力學、程式與邏輯的世界。相較於傳統偏重背誦與單一學科的教學方式，STEAM 重視「做中學」與「解決真實問題」的能力，也被視為銜接未來人才需求的重要教育取向。

臺中市教育局多年來以此為根基，結合科技、數位的力量，逐步在校園扎根，壯大孩子們內心那位名為好奇心的老師。

In recent years, “STEAM education” has been mentioned more and more often in schools. It stands for Science, Technology, Engineering, Art, and Mathematics. The idea is to break down the walls between subjects and let children learn through hands-on practice and cross-field integration.

It can begin with a game. When children build robots, design challenges, or discuss with classmates how to make a marble roll faster, they may quietly step into the world of mechanics, programming, and logic without even realizing it. Compared with traditional teaching, which often focuses on memorization and single subjects, STEAM values “learning by doing” and the ability to solve real problems. It is also seen as an important approach to preparing talent for the future.

The Education Bureau of Taichung City Government has built on this foundation for years, integrating technology and digital tools into schools and nurturing the teacher within every child—their curiosity.

Using technology
to
Protect every
curious mind



How children can explore the world through
hands-on learning and independent thinking

「三好」哲學：好玩、好奇、好學

「我始終認為，科學或科技，是從小朋友的『好玩』開始。」臺中市政府教育局長蔣偉民這麼說。好玩會催生好奇心，好奇心則會驅動孩子主動去理解背後的原理，進而走向好學——這是他觀察多年教育現場後歸納出的三個階段。許多孩子為了打電動、玩遊戲，會自願去學習日文或英文，只為了更貼近自己真正想做的事。一旦孩子清楚知道自己「想要什麼」，學習便從被動、逼迫的功課，轉化為一場主動的探索。

秉持這個信念，臺中市教育局在富春國小、大甲國中、立新國中、北新國中、潭秀國中、沙鹿國中、成功國中及西苑高中，成立了八座自造教育及科技中心，在山、海、屯、中各區均衡布建，這些中心的核心任務，除了培訓教師相關研習，也讓教師回校後能設計社團活動與競賽，用「動手做」與「解決問題」的過程，把孩子的好奇心轉化成真正的能力。

談起印象最深刻的教學現場，蔣偉民想起富春國小科技中心裡的仿生鳥模型——會振翅、會發出聲響的玩具，「連我這個年紀都覺得很好奇，何況是小朋友。」而在忠明國小附設的幼兒園裡，孩子們則利用積木牆設計軌道結構，思考如何讓珠子更快、更順地滾落，「表面上他們只是在解決一個好玩的問題，但無形中，力學和結構的原理，早就悄悄融入他們的思考裡了。」



從積木組裝、齒輪傳動到實際操作，臺中市透過 STEAM 課程，讓師生在動手實作與共同討論中理解科學原理，培養解決問題與跨域整合的能力。

打破城鄉界線，推進每個孩子潛能

教育的本質是平權。除了八座官方科技中心，臺中也在大墩國中、大華國中、大雅國中、翁子國小及忠明國小附幼設立示範學校，並攜手中科、大雅廚具與臺中科技大学等民間單位，以公私協力的方式共同推動STEAM教育。

為了讓資源不因地理位置而卻步，教育局與大甲科技中心合作，打造「翔谷號」行動學習車，車上載滿STEAM教材、數位學習遊戲，以及3D列印、AR、VR等新興科技設備，主動開進偏鄉學校，帶去力學、電控與美感、化學等跨領域課程。114學年度，這輛巡迴列車預計開進本市國中小達45場次以上，讓近千名偏鄉學子也能親身體驗科技的魅力。蔣偉民也不時在局務會議中提醒同仁，設備必須定期更新，「不能讓幾年前補助的東西一直放到現在都沒有換過。」持續構築知識對孩子的吸引力。

課本之外，需要鍛鍊的新技能

科技進步，每一天都有不同的資訊在社會中流竄，加上生成式AI崛起，「AI判讀」與「媒體識讀」已經成為生活中重要的課題，對於尚在吸收不同知識、學說的學子們來說更是如此，於是臺中教育局將其轉化為跨領域的素養課程。

比方說，在國語文與社會課程裡，老師會引導學生辨識生成式AI可能出現的「幻覺」與各式假訊息；在科技課程中，則讓孩子親身體驗深偽（Deepfake）技術，從實作中理解「眼見不一定為真」。蔣偉民提及，曾看過一篇文章，學者分享親身經歷：對方請AI介紹自己，結果連畢業校系、任職單位都被AI「一本正經地」寫錯，「一般人根本無從判別，如果沒有先查證的習慣，很容易就信以為真。」這也是他反覆強調「先思考、再協作、後查核」的原因，AI可以是共學夥伴，但論點建構與事實查核，終究要回到自己的大腦。

為了讓這套原則真正落地，教育局同步從教師端補強，推動「AI輔助教學增能研習」，透過地方輔導團設計各領域的實務工作坊，訓練重點不只停留在工具操作，更聚焦於「提示詞工程」（Prompt Engineering）的



「翔谷號」行動學習車開進校園，帶來 AR、VR 與機器人等科技體驗，讓孩子透過實際操作接觸課本之外的知識，從遊戲與探索中打開對科技的想像。



設計思維，讓老師能在課堂上帶著學生對AI進行有深度的提問與批判。蔣偉民也坦言，曾經有學生利用AI不當合成同學影像的案例，因此，科技教育同時必須劃出清楚的倫理界線，提醒師生「AI 能做什麼」與「不能做什麼」，往往比工具本身的操作更值得重視，也是校園內倫理教育不可迴避的一課。

名為RAG系統的在地化安全防線

面對「資源分散、使用門檻高、缺乏在地化內容」三大痛點，臺中市教育局以「RAG（檢索增強生成）系統」與「專屬知識庫」出擊。

這套系統讓AI在回答問題前，先「翻閱」在地化的檔案，而不是單靠模型內部記憶硬背資訊，能有效降低「一本正經胡說八道」的幻覺風險，資料也不必透過重新訓練模型才能更新，只要把最新的教學計畫、PDF或法規放入知識庫，AI就能立刻掌握最新脈絡。

同時，導入地方特色課程、課程計畫與輔導團教材教法等在地資料，讓AI給出的答案，真正貼近臺中的教學現

場與學生需求。而「本地端」的隱私架構，可以使資料不外流到外部雲端，所有檢索與運算都在自家伺服器內完成。整合教育部因材網AI、酷英網AI及市購AI工具時，也會清楚標示適用年齡與數據隱私等級，方便家庭與學校篩選出安全無虞的數位學習工具。系統預計於今年10月完成建置，未來將優先提供給教師使用，再慢慢近一步，建立起在地化、眾人可共享的教學知識庫。

給好奇心最好的禮物

談起智慧校園的下一步，蔣偉民認為目前的成果只是起點，未來不只是教學智慧化，企圖行政管理、用電用水等校園日常，都能夠逐步導入數位分析。

回顧自己推動科技教育的初衷，蔣偉民說，孩子最珍貴的地方，就在於還沒被既定答案「污染」，任何事情都能從好奇出發。面對「望子成龍、望女成鳳」的傳統期待，成績並非唯一的評量標準，「考九十分跟一百分，長遠來看其實沒有太大差別。」反而是那些在課業之外被允許嘗試的興趣，往往才是孩子未來發展的底蘊。

「唯有嘗試錯誤，才会有真正的學習。」在他眼中，教育局沒有辦法替孩子鋪好一條沒有失敗的路，但他們渴望與孩子站在同一戰線，將那些曾經束縛住好奇心的框架，一點一點地鬆開，讓下一代能帶著更厚的臉皮、更勇敢的心，去挑戰、去探索，走出屬於自己的路。

The “Three H” philosophy: have fun, have curiosity, and have a love of learning

“I have always believed that science and technology begin with what children find fun”. Education Bureau Director-General Chiang Wei-Min says. Fun sparks curiosity. Curiosity drives children to understand the principles behind things, and that leads to a love of learning. These are the three stages he has identified after years of observing classrooms. Many children willingly learn Japanese or English because they want to play video games and understand them better. They learn because it brings them closer to what they truly want to do. Once children know clearly what they “want”, learning stops being forced homework and becomes active exploration.

With this belief, the Education Bureau has set up eight Maker Education and Technology Centers at Fuchun Elementary School,



臺中市持續培育 STEAM 種子師資，鼓勵教師將研習所學轉化為風力發電、機械結構等實作教具，透過跨領域課程，引導學生在動手做的過程中理解科學原理、發揮創造力。

Dajia Junior High School, Lixin Junior High School, Beixin Junior High School, Tanxiu Junior High School, Shalu Junior High School, Chenggong Junior High School, and Xiyuan Senior High School. These centers are evenly placed across the mountain, coastal, township, and central areas of Taichung. Their core mission is not only to train teachers, but also to help teachers design club activities and competitions after returning to their schools, turning children's curiosity into real ability through hands-on work and problem solving.

When asked about the classroom scene that impressed him most, Chiang thinks of the bionic bird model at the Fuchun Elementary School Technology Center. It is a toy that flaps its wings and makes sounds. "Even someone my age finds it fascinating, let alone children". At the kindergarten affiliated with Zhongming Elementary School, children use a block wall to design track structures and think about how to make marbles roll down faster and more smoothly. "On the surface, they are just solving a fun problem. But without even noticing it, the principles of mechanics and structure have already become part of their thinking".

Breaking urban and rural boundaries and unlocking every child's potential

The essence of education is equal opportunity. In addition to the eight official technology centers, Taichung has also set up demonstration schools at Dadun Junior High School, Dahua Junior High School, Daya Junior High School, Wengzi Elementary School, and the kindergarten affiliated with Zhongming Elementary School. The city also works with private and community partners, including Central Taiwan Science Park, Daya

Kitchenware, and National Taichung University of Science and Technology, to promote STEAM education through public-private collaboration.

To make sure resources are not limited by location, the Education Bureau worked with the Dajia Technology Center to create the "Xianggu" mobile learning vehicle. Filled with STEAM teaching materials, digital learning games, and emerging technology equipment such as 3D printing, AR, and VR, the vehicle travels directly to rural schools and brings cross-field courses in mechanics, electronic control and aesthetics, chemistry, and more. In the 2025 academic year, this mobile learning vehicle is expected to visit elementary and junior high schools in the city more than 45 times, allowing nearly 1,000 students in rural areas to experience the appeal of technology firsthand. Chiang also often reminds colleagues in bureau meetings that equipment must be updated regularly. "We cannot let equipment funded years ago sit there until now without being replaced". The goal is to keep making knowledge attractive to children.

New skills children need beyond textbooks

As technology advances, different kinds of information flow through society every day. With the rise of generative AI, "AI interpretation" and "media literacy" have become important life skills, especially for students who are still absorbing different kinds of knowledge and ideas. That is why the Taichung Education Bureau has turned them into cross field literacy courses.

For example, in Mandarin and social studies classes, teachers guide students to identify possible "hallucinations" from generative AI and all kinds of misinformation. In technology classes, students experience deepfake technology firsthand and learn through practice that "seeing is not always believing". Chiang mentions an article he once read in which a scholar shared a personal experience. Someone asked AI to introduce the scholar, but the AI "confidently" got even the scholar's school, department, and workplace wrong. "Most people would have no way to tell. Without the habit of checking first, it is easy to believe it is true". That is why he repeatedly stresses "think first, collaborate next, and verify after". AI can be a learning partner, but building arguments and checking facts must still come back to our own minds.

To put this principle into practice, the Education Bureau is also strengthening teacher training by promoting "AI-assisted teaching empowerment workshops". Local advisory groups design practical workshops for different subject areas. The training does not stop at tool operation. It focuses more on the design thinking behind prompt engineering, so teachers can guide students to ask AI deeper questions and think critically about its answers. Chiang also notes frankly that there have been cases of students using AI to improperly synthesize images of classmates. For this reason, technology education must also draw clear ethical lines. Reminding teachers and students what "AI can do" and what it "must not do" is often more important than

learning how to use the tool itself. It is also an unavoidable lesson in campus ethics.

A local safety line called the RAG system

To address three major pain points, scattered resources, high barriers to use, and a lack of local content, the Education Bureau has introduced a RAG (Retrieval-Augmented Generation) system, together with a dedicated knowledge base.

Before AI answers a question, this system first lets it “look through” local files instead of relying only on information memorized inside the model. This can effectively lower the risk of confident but false hallucinations. The data also does not need a full model retraining to be updated. Once the latest teaching plans, PDFs, or regulations are added to the knowledge base, AI can immediately understand the newest context.

At the same time, the system brings in local data such as local feature courses, curriculum plans, and teaching materials and methods from advisory groups, so the answers AI gives can truly fit Taichung’s classrooms and students’ needs. Its local privacy architecture keeps data from flowing to external clouds. All retrieval and computing are completed on the city’s own servers. When integrating AI tools from the Ministry of Education’s Adaptive Learning Platform, Cool English, and city-purchased AI tools, the system will clearly label suitable age groups and data privacy levels, making it easier for families and schools to choose safe digital learning tools. The system is expected to be completed this October. It will first be made available to teachers, then gradually move forward to build a localized teaching knowledge base that can be shared by many users.

The best gift for curiosity

Speaking about the next step for smart campuses, Chiang says the current results are only the beginning. In the future, smart schools will not only make teaching smarter. Digital analysis can also be gradually introduced into everyday campus operations such as administration, electricity use, and water use.

Looking back on why he began promoting technology education, Chiang says the most precious thing about children is that they have not yet been “polluted” by fixed answers. They can begin anything with curiosity. In the face of traditional expectations that children must become highly successful, grades should not be the only standard. “In the long run, there really is not much difference between scoring 90 and scoring 100”. Instead, the interests children are allowed to try outside schoolwork often become the foundation for their future development.

“Only through trial and error can real learning happen”. In his view, the Education Bureau cannot lay out a road with no failure for children. But it hopes to stand on the same side as them, slowly loosening the frames that once held back curiosity, so the next generation can be less afraid of embarrassment, more courageous, and ready to challenge, explore, and find their own path.

臺中市教育局長蔣偉民認為，科技教育應從「好玩」出發，讓好奇心引導孩子主動探索，面對生成式AI時代，更要培養獨立思考、查核資訊與勇於嘗試的能力。



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