英國智慧城市參訪團
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British Office
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Department for
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INNOVATION
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目 錄

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有興趣與參展城市代表及英國廠商會談的朋友，歡迎於智慧城市展期間前往南港展覽館J804英國國家館做進一步交流。之後也歡迎您隨時與英國在台辦事處的國際貿易部團隊聯繫。

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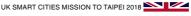E: Anne.Lai@fco.gov.uk

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前 言

智慧城市的發展

智慧城市概念包含某些當今全球社會所面臨的最嚴峻挑戰，以及許多提供潛在解決方案的創新科技。智慧城市可說是代表各種塑造二十一世紀都市生活的複雜力量的簡明標籤。

「智慧城市的特點是將科技整合到永續發展、公民福祉和經濟發展的策略方針之中。」

智慧城市持續受到關注，背後因素包括越來越多地區都市化、減少都市碳排量和改善資源消耗管理的需求，以及城市所面臨的經濟、財政和環境壓力不斷升高。這些發展和日新月異的科技交錯在一起，為都市和供應商帶來許多商機。物聯網 (IoT) 科技日益普及，加上感應器和連網服務的成本不斷降低，帶動智慧裝置的布署越來越廣泛，讓都市服務用戶和管理者能取得更加豐富的資料。即使沒有追求效率和永續發展的強大驅動因素，都市景觀也會步入轉型過程，因為都市會變成既是實體、又是虛擬的環境。

英國的智慧城市

英國向來是創建智慧城市標準的領袖，而這一切始於2014年2月推出的《智慧城市架構――智慧城市與社區策略建構指南(Smart City Framework – Guide to Establishing Strategies for Smart Cities and Communities)》。該架構是由英國標準協會 (British Standards Institution，簡稱BSI) 領導研擬，並獲得各城市、政府與供應商的支持。BSI隨後又進行多項旨在標準互用性與資料分享等領域提供支援的具體研究，並推動在未來城市創新研究所 (Future Cities Catapult)內成立城市標準協會 (City Standards Institute)。

英國已確立邁向智慧城市的目標，許多城市很久以前就制定以**數位創新**、**潔淨能源科技**、**運輸**或**健康服務創新**等為重心的策略，為擴展智慧城市計畫奠定健全的基礎。中央政府的計畫在推展智慧城市過程中扮演重要的角色，例如經費高達2,400萬英鎊的格拉斯哥未來城市示範計畫 (Glasgow Future Cities Demonstrator)，促使許多城市跟進研議智慧城市計畫。同樣扮演催化角色的還有2016年物聯網挑戰 (2016 IoT Challenge) 競賽中獲獎的曼徹斯特城市活力計畫 (Manchester CityVerve)，激發許多城市推出重要的合作案，影響力超越了曼徹斯特地區。

智慧城市在英國的發展近年焦點集中在**北部振興計畫** (Northern Powerhouse) 的潛力上；根據該計畫，中央政府下放更多權力給英格蘭北部的大型城市。如今同樣模式擴及其它地區，包括英格蘭中部 (Midlands) 推出仿效北部振興計畫的**中部引擎計畫** (Midlands Engine)，英格蘭西南部地區的**西國計畫** (West Country) 則成立聯合政府，由新當選的區域首長領導。

前 言

利物浦(Liverpool)、伯明罕(Birmingham)和曼徹斯特(Manchester)等成立聯合政府的都市地區在2017年改選市長,對當地智慧城市計畫的規劃和領域產生影響。類似情況也發生在選出新市長的首都倫敦 (London),以支持新市長希望讓倫敦成為全球智慧化程度最高城市的目標。新堡 (Newcastle) 等未改選市長的城市也受到不相上下的影響,因為這些地區希望自身的策略和所選擇的途徑具備和其它城市抗衡的實力。在各種不同的結構下,城市協議變成重要的催化劑,不僅促進基礎建設投資資金的釋出,還在**運輸、住宅**和**經濟發展**等各種議題上促成更多集思廣益的合作。蘇格蘭也在該地區前七大城市合組的蘇格蘭智慧城市聯盟 (Scottish Smart Cities Alliance) 架構下,推出蘇格蘭智慧城市 (Smart Cities Scotland) 合作計畫。

在各城市財政吃緊並持續削減預算的陰影下,前述種種智慧城市發展計畫仍持續進行。由於預算吃緊,迫使各市領導人不斷檢視所有層面的市政運作,希望找出提高效率和節省成本的方法。國際經驗的分享及合作亦是方法之一。透過參加2018**智慧城市展**,希望能夠推進更多**英國與台灣**城市及產業之間的合作!

資料來源:UK Smart Cities Index 2017 by Navigant Consulting

英國智慧城市一覽表

Aberdeen is driving forward with a new strategic approach to embedding innovation and new technologies into the city's improvement programme and operations management.

Edinburgh has laid out ambitious plans for transport and other urban development programs and is supporting this vision with a range of innovation projects and technology pilots.

Glasgow has benefited from the investment made available by the Future City Demonstrator award and now has a strong platform for future innovation.

Belfast is developing a more coordinated vision of its evolution to a smarter city with the development of the Smart Belfast framework. It is drawing on existing investment in the digital sector and strengthening collaboration with city partners and local universities.

Birmingham is integrating a well-established city strategy with the potential offered by taking a broader West Midland approach to the development of digital infrastructure. It is also building closer links between the city's internal organisation and its innovation programmes.

Liverpool's work on smart and clean energy projects, its health research facilities, and its support for the growth of the local digital sector provide a good base for its developing smart city programme.

Bristol has made significant strides in extending its innovation programmes and in the closer integration of those initiatives into city operations. The establishment of a city operations centre closely aligned to those innovation programs is just one of the developments that is putting Bristol at the forefront of linking smart city innovations to city service delivery.

Cardiff with its new city deal has the potential to develop and support an extensive smart city strategy. Its ambitious smart parking project shows there is an appetite to deploy innovative technology to meet city challenges.

Exeter is in the early stages of developing a smart city programme. The Council is working with Exeter City Futures and has set out an ambitious environmental programme.

Oxford has developed a strong partnership between local authorities, universities, the private sector, and other agencies, providing a basis for the future expansion of its programme.

Manchester is home to one of the most ambitious UK smart city demonstrators in the CityVerve project, which is throwing fresh light on the opportunities and challenges of implementing urban IoT solutions.

Newcastle has reinvigorated its smart city programme and with Newcastle City Futures is placing science and digital technologies at the heart of the city's development.

Leeds has refreshed its approach to smart city development and continues to be a leader in the development of urban data programs and a holistic approach to developing a healthy city.

Sheffield is making strides developing its city plan and implementing pilot city projects with a digital focus. There is opportunity for the city to make stronger links between its broader strategy and the potential for smart city innovations as shown in the Smart City Lab.

Nottingham has built up a strong roster of energy and transport initiatives and projects. It is now starting to bring these together within a broader, more coordinated smart city strategy.

Milton Keynes has established itself as a centre for the testing of new urban technologies and is now moving into a new phase in the evolution of MK:Smart.

Peterborough is moving forward on its vision of creating a Circular City and the forms of collaboration and sharing these needs between all stakeholders.

Cambridge has used funding from its City Deal to establish a real-time IoT platform for city and regional innovation projects as well as other initiatives.

London's smart city initiatives have been reinvigorated after the 2016 mayoral election, with an increasing commitment to data-driven policy initiatives and an ambitious new environmental plan in development. There has also been considerable progress in several London boroughs, notably in the ambitious Digital Greenwich programme.

The **Reading** 2050 Vision outlines the possibilities for the town and local region and is spurring a series of innovation projects across multiple sectors.

資料來源：UK Smart Cities Index 2017 by Navigant Consulting

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作為運算及連網革命的核心企業，ARM的技術正改變著人們生活及商業營運的方式。

ARM先進的低功耗處理器設計已應用於超過1,000億顆晶片，安全地驅動了包含感測器、智慧型手機以及超級運算等各類應用。ARM擁有超過1,000家技術合作夥伴，其中包括世界上最著名的企業及消費品牌。ARM積極創新，期望能將創新技術應用到所有需要運算的領域，如晶片、網路及雲端。

Arm technology is at the heart of a computing and connectivity revolution that is transforming the way people live and businesses operate. Our advanced, energy-efficient processor designs are enabling the intelligence in more than 100 billion silicon chips and securely powering products from the sensor to the smartphone and to the supercomputer.

With more than 1,000 technology partners, including the world's largest consumer brands, we are driving Arm innovation into all areas compute is happening inside the chip, the network and the cloud.

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Arup參與全球重大營建專案，觸角橫跨各個產業，在專案中發揮重要的創意力量。我們業務版圖涵蓋35個國家，設有85個辦事處，旗下擁有1萬3千名設計師、工程師、規劃師，他們深具創意與熱誠，推動專案不遺餘力。

無論是政策建議、都市資訊應用，還是基礎建設規劃，Arup認為智慧城市是都市發展的途徑之一，發展過程以人為本。我們發揮科技優勢，強化都市系統與服務的運作，打造更聰明、更優質的生活。

Arup is the creative force at the heart of many of the world's most prominent projects in the built environment and across industry. From 85 offices in 35 countries our 13,000 designers, engineers, planners and consultants deliver innovative projects across the world with creativity and passion.

From policy advice to urban informatics and infrastructure design, Arup sees smart cities as one of the tools for urban development, with people at the heart of the process. We make the best use of technology to optimise the operation of urban systems and services, enabling a smarter better living.

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Briteyellow公司為室內定位和物聯網應用程式提供行人智慧行動軟體即服務(software-as-a-service，簡稱SaaS)平台。該公司希望以其正在申請專利的「3D室內全球定位系統」科技為基礎，為全球的室內空間提供虛擬導引服務；該科技可讓需要改善空間導引的業者獲得更精確的行人活動和分析資料。Briteyellow為智慧城市規劃人員和人潮洶湧場所的業者開發虛擬和擴增實境應用程式。

該公司長期致力研發，並追求協作領導 (collaborative leadership)，因而成為廣受信賴的智慧城市應用程式開發夥伴。

Briteyellow Ltd provides pedestrian smart mobility software-as-a-service platform (SaaS) for Indoor Location and Internet of Things applications. Their vision is to provide a virtual guide for the worlds' indoor spaces, based on Briteyellow's patent pending "3D indoor GPS" technology. It gives better pedestrian engagement and analytics for operators who need to offer to offer better indoor wayfinding.

Briteyellow powers virtual and augmented reality applications for smart city planners, and operators of high footfall venues.

Briteyellow's long term commitment to Research and Development and passion for collaborative leadership makes them a trusted partner for Smart City applications.

英國標準協會
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英國標準協會（British Standards Institution，簡稱BSI）是一家商業標準公司，提供企業不可或缺的解決方案，將企業最優良的執行標準轉為卓越的習慣。成立於1901年的BSI，是全球第一個國家級標準驗證機構，亦是國際標準組織（ISO）的創始會員之一。一世紀以來，BSI持續帶動全球各地的企業進行組織改進、強化組織韌性，採取國際管理系統標準（許多起源於BSI），協助客戶提高績效、管理風險、永續成長。BSI旗下擁有數個卓越標誌，包括深受消費者肯定的風箏標誌（Kitemark）。BSI的影響力涵蓋眾多產業，尤其是航太、汽車、營造、食品、醫療保健與資訊科技。業務版圖涵蓋182個國家，服務8萬名客戶，BSI的產品與服務激勵全球各地的客戶追求卓越。

BSI (British Standards Institution) is the business standards company that equips businesses with the necessary solutions to turn standards of best practice into habits of excellence. Formed in 1901, BSI was the world's first National Standards Body and a founding member of the International Organization for Standardization (ISO).

With 80,000 clients in 182 countries, BSI is an organization whose products and services inspire excellence across the globe. BSI continues to facilitate business improvement and organizational resilience across the globe by helping its clients drive performance, manage risk and grow sustainably through the adoption of international management systems standards, many of which BSI originated.

Renowned for its marks of excellence including the consumer recognized BSI Kitemark™, BSI's influence spans multiple sectors with a particular focus on Aerospace, Automotive, Built Environment, Food, Healthcare and IT.

Chipside Limited

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Chipside Limited是一個供智慧城市管理者使用的數位平台，可以用於管理停車費、住戶停車證、長期停車證、城市核發的執照等事宜。只須擁有一個帳戶即可向許多城鎮購買許可證，並透過統一的雲端平台，提供數位通路享受政府的智慧服務。

透過Chipside Limited 整合系統，執法人員可以用行動軟體，管理街道違規行為與違規停車罰單。透過案件管理流程系統，在收費階段時便能處理罰款與罰單。透過數位許可證系統，民眾可以建立單一的線上數位帳號，統一管理當地或其他地區政府核發的執照與許可證。

2017年12月，Mipermit的使用，首次超過了當地政府數位許可帳戶的100萬用戶。 2017年，我們經手管理的車次高達180萬輛。2017年，在巴斯市(Bath)，我們的智慧城市應用於年度許可證交易則超過100萬件。在2018年初，我們被Worldpay提升到了支付卡產業資料安全標準 (PCI) 二級。.我們的智慧城市科技，領先全球。

Chipside Limited provides digital platforms for smart city managers to manage parking fees, resident permits, parking stays, city licenses. One account can be used to purchase licenses and permits from many towns and cities, bringing digital access to smart government services on one common cloud platform.

The integrated system includes law enforcement officers' mobility software managing on street offences, parking citations. The case management workflow system allows fines and citations to be progressed through collection stages. The digital permit license system gives citizens one online digital account to manage their licenses and permits with their local or regional council.

In December 2017, Mipermit exceeded 1 million users of its local government digital permit account service for the first time. In 2017, we handled 1.8m unique vehicles. In 2017, City of Bath exceeded one million annual permit transactions for our smart city application, a world class result. In early 2018, we were elevated by Worldpay to PCI level 2.

DARKTRACE

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DARKTRACE 是世界頂尖的人工智慧網路資安公司。由數學家們創建的企業免疫系統，藉由機器學習和人工智慧演算法來偵測並對在雲端、虛擬化網路、物聯網和工業控制系統等不同數位環境中的網路威脅做出反應。該技術是自我學習，不需要另外安裝，且能及時辨識如零時差攻擊、內部攻擊或隱密攻擊者的威脅。

DARKTRACE總部位於英國劍橋及美國舊金山，在全球擁有超過30個辦事處。

DARKTRACE is the world's leading AI company for cyber security. Created by mathematicians, the Enterprise Immune System uses machine learning and AI algorithms to detect and respond to cyber-threats across diverse digital environments, including cloud and virtualized networks, IoT and industrial control systems. The technology is self-learning and requires no set-up, identifying threats in real time, including zero-days, insiders and stealthy, silent attackers.

DARKTRACE is headquartered in San Francisco and Cambridge, UK, and has over 30 offices worldwide.

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DG Cities Ltd(www.dgcities.com)是倫敦格林威治皇家自治區的全資子公司。我們是智慧城市創新開發和應用的卓越技術中心，其中也涵蓋聯網自動駕駛汽車的應用。專精於高技術含量服務的DG Cities Ltd提供智慧城市策略、設計、城市創新、經濟、永續發展、現代建築環境和新世代科技管理方面的專業知識。

我們的客戶包括全球的科技和移動公司、縣市政府與房地產開發商。我們在開發和應用智慧城市創新提供支援，極大化其影響力與城市利益。我們積極參與了一系列最高規格的聯網自動駕駛汽車路線，並承辦了英國的一個大型實証聯網自動駕駛汽車(CAV)測試平台。

DG Cities Ltd (www.dgcities.com) is a wholly owned commercial subsidiary of the Royal Borough of Greenwich, London. We are a centre of excellence in the development and deployment of smart city innovation, including connected and autonomous vehicles. DG Cities operates in a highly specialised area offering expertise in smart city strategies, design, urban innovation, economics, sustainability, the modern built environment and next generation technology management.

Our clients include global technology and mobility companies, city authorities and property developers. We offer support in the development and deployment smart city innovation to maximise its impact and city benefits. We are actively involved in a number of high profile connected and autonomous vehicle trails and host one of the UK's large-scale, real-world connected and autonomous vehicles (CAV) test beds.

Digital Barriers

Digital Barriers

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Digital Barriers提供軟體解決方案與雲端服務，管理和分析即時擷取的影像及影音串流，隨時隨地傳送可供採取具體行動的影音情報。

我們的解決方案以軟體為主，能輕易整合影音管理系統、錄影設備與感測器，客戶涵蓋大型國防、安全與執法單位，營運遍及全球55個國家以上。我們亦與大型商業通路夥伴合作，以授權方式銷售給科技公司與服務供應商。

Digital Barriers的先進的軟件解決方案包括：

• 透過無線網絡的安全、零延遲影像

• 在IP錄影機，智慧手機和穿戴式裝置上運行的臉部辨識技術

• 部署政府認可的視頻分析軟件在錄影機上，或嵌入企業或雲端的視頻管理系統

Digital Barriers provides software solutions and cloud services to manage the capture, analysis and streaming of live video, enabling actionable video intelligence to be delivered where it's needed, when it's needed.

Our software-based solutions readily integrate with video management systems, cameras and sensors, and have been sold to flagship defence, security and law enforcement agencies in more than fifty countries around the world. We also resell through large commercial channel partners and on a licensed basis to leading technology companies and service providers.

Digital barriers' advanced software-based solutions include:

· Secure, zero-latency video over wireless networks

· Live facial recognition technology that operates on IP cameras, smartphones and body worn devices

· Government-accredited video analytic software deployed on cameras, or embedded within enterprise or cloud-based video management systems.

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Micro:bit教育基金會是一個非營利組織，致力於幫助世界各地的兒童在學校，社團和家中借由科技取得創意並發展數位技能。我們的使命是為世界各地的全球一億名兒童，家長和教師加強數位及程式編寫相關技能。

針對7歲以上的學童與他們的老師和家長所開發的Micro:bit科技，在教育科技方面非常具有創造性，並可增強STEM (科學、科技、工程及數學) 能力。

The Micro:bit Educational Foundation is a non-profit organization enabling children around the world to get creative with technology and gain digital skills in school, in clubs and at home. Our mission is to empower 100M children, parents and teachers around the world with digital skills around the globe.

The micro:bit was developed for young people from 7 years old, their teachers and parents to get creative with technology in education and strengthen society's STEM (science, technology, engineering, and math) skills.

Movement Strategies

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Movement Strategies是世界規模最大，經驗最豐富的人流規劃諮詢公司。獨特之處在於，我們替既有的環境結合了過去無與倫比的設計與營運諮詢記錄，以大數據分析與應用的專業知識，為商業決策提供資訊。12年來，我們在人員移動分析的領域上持續創新，不斷發展我們的能力以找尋更有智慧的方式來實現客戶的目標。

Movement Strategies是英國行動網路和Wi-Fi 數據的領導者。我們替我們的客戶，如Telefónica和O2提供英國與其他國家的人流分析給運輸，零售和戶外傳媒業者。

運輸產業中Movement Strategies是全球先驅。我們利用大數據，更準確高效地捕捉在各國家、城市、鄉鎮的運輸工具中，居民和遊客的移動模式。這些資訊皆是匿名且以總和的方式呈現。取得的資訊可用於判讀各種趨勢，包括增長模式，同時也有助於了解外部因素，如天氣，造成的影響。

我們從大數據集中擷取有用資訊，可令交通運營商、零售商以及其他第三方，有效提升人們在某地、對某服務的體驗，驅動業者有更好的商業表現。

We are the largest and most experienced independent, specialist people movement consultancy in the world. Uniquely, we combine an unrivalled track record of design and operations consultancy for the built environment, with expertise in the analysis and application of big data to inform business decisions. For 12 years we have been breaking new ground in people movement analytics, continuously evolving our capability and exploring smarter ways to achieve our clients' objectives.

We are the UK's leading analysts of cellular and Wi-Fi data. On behalf of our clients Telefónica and O2, we deliver movement analytics projects in the UK and abroad, across Transport, Retail and Out of Home Media sectors.

In the transport sector, we are the global pioneers, using big data to more accurately and more efficiently capture the movement patterns of residents and visitors moving on a transport network at a national, regional, city, district and local area scale, all on an anonymous and aggregated basis. The insights derived can be used to identify a variety of trends, including growth patterns, whilst also helping to better understand impacts of external factors e.g. weather.

Our work extracts the value from big data sets, for transport operators and retailers, as well as third parties, to enhance the way people experience a place, a space or a service, which drives better business performance.

Naturebytes Evolution

參訪團員介紹

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Naturebytes運用科技,以新的和令人興奮的方式探索自然,與野生動物再次連結。

· 透過Naturebytes套件和活動,每個人都能學習基本STEM技能並成為一個積極的保育人員。

· Naturebytes建構屬於你的Raspberry Pi野生動物相機並連結一個完整的網絡來發現您社區中的野生動物。

· 從Naturebytes教育活動中,利用有趣的教育指南,協助8歲以上學生的習得STEM技能。

· 使用Naturebytes套件,成為參加國家野生動物保護計劃公民科學家。

我們是一個由科技和保育專家創建的獲獎組織,致力於為每個人提供智能野生動物科技來啟發教育與研究並滿足好奇心。

我們與全球非營利的保育單位合作並獲得Google.org和Raspberry Pi Foundation等夥伴的緊密合作與支持,提供國家教育和公民科學計劃。

我們的旗艦產品The Wildlife Cam Kit是一款動態感應的野生動物相機,任何人都可以輕易使用它來遠程捕捉野生動物的高清圖像。

· 製作 - 建立並學習電子學和編碼。

· 捕捉 - 到戶外,捕捉靜止圖像,視頻和縮時攝影。

· 分享 - 線上社群上傳和查看圖像,積極參與保育。

加入我們來了解如何與野生動物再次拉近距離!

Reconnect with wildlife - build technology to explore nature in new and exciting ways!

With Naturebytes kits and activities everyone can learn essential STEM skills and become an active conservationist.

- Build your own Raspberry Pi powered Wildlife Camera - or create an entire network to discover wildlife in your community

- Run Naturebytes education activities - deliver STEM skills with our fun educator and student lesson guides for anyone aged 8 years and older

- Take part national wildlife conservation programmes - use your Naturebytes kit to become a citizen scientist

We are an award-winning organisation created by technology and conservation experts working to bring smart wildlife technology to everyone - for education, for research, for the curious.

Working closely with our network of Global Conservation NGO's and partners and supporting partners, such as Google.org and the Raspberry Pi Foundation, we deliver national education and citizen-science programmes.

Our flagship product, The Wildlife Cam Kit, is a motion-sensitive wildlife camera that anyone can build to remotely capture high definition images of wildlife.

- Make - build it, learn about electronics and coding.

- Capture - get outdoors, capture stills, video and timelapse images.

- Share - upload and view images with the online community to play an active role in conservation.

Join us and learn how you can reconnect with wildlife!

Night Zookeeper (Wonky Star Ltd)

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參
訪
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Wonky Star Ltd是具啟發性教育科技品牌 Night Zookeeper的生產商。Night Zookkeeper其獲BAFTA提名的閱讀和寫作平台更在世界各地超過30個國家的2500多所學校中使用。

Night Zookeeper成立於2012年，是一個在英國快速成長的兒童品牌，此品牌的網站 Nightzookeeper.com，是由一位教師，一位作家，一位設計師和一位工程師創立，他們對兒童的創造力充滿熱情，此網站在全球超過3500所學校中使用，以提升學童英語語言技能。

Wonky Star Ltd is the producer of Night Zookeeper, an inspirational educational technology brand. Its BAFTA-nominated reading and writing platform is used in over 2,500 schools around the world and in over 30 countries.

Night Zookeeper is one of the fastest growing children's brands in the UK. Founded in 2012 by a teacher, a writer, a designer and a programmer all passionate about children's creativity, its website nightzookeeper.com is used in over 3,500 schools around the world to improve English language skills.

PRIMO

Primo Toys

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CLASSROOM
STEAM
EDUCATION

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Primo Toys製造智慧玩具讓學習變有趣，並自許成為全球最佳教育玩具公司。我們不只是將玩具當作是娛樂用途，而是作為更優越的主動學習工具。我們專門為3至6歲的女孩和男孩製作玩具，不需要使用螢幕即可導入STEM(科學、技術、工程及數學) 概念。

偉大的玩具應該成為偉大遊戲體驗的途徑，會持續的存在並且塑造我們。

Primo Toys make smart toys for playful learning, and we're here to build the best educational toy company in the world. We make toys, specifically for girls and boys age 3 to 6, that introduce STEM concepts without the use of screens. We don't just look at toys as tools for mindless entertainment, but as infinitely superior instruments of active learning. Great toys should be a gateway to great play experiences, the kind that last and shape who we become.

Smart Mobility Living Lab: London

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SMLL:L位於倫敦市中心的格林威治皇后區和伊麗莎白女王奧林匹克公園。它提供真實世界中的複雜公共環境，在容易理解且全球認可的條件下，展示和評估自駕車科技和移動服務的使用、表現與效益。

SMLL:L為現有和未來在移動市場上的利害關係人提供開放創新的環境，以利意見交流與技術和商業解決方案的發展。這個志向遠大的計畫由英國的運輸研究實驗室 (TRL) 和DG Cities領導的聯盟團隊管理，並且獲得英國政府自駕車測試平台競爭基金 (基金規模一億英鎊) 的支持。

我們的專業領域包括：

• 車輛和相關系統的Alpha測試

• 移動服務的Beta測試

• 數位分身模擬的實際驗證

• 可供未來移動使用的基礎設施測試

• 都市在移動服務的調適能與整合研究

SMLL: L is located in the heart of London in the Royal Borough of Greenwich and Queen Elizabeth Olympic Park. It offers a real-world complex public environment, capable of demonstrating and evaluating the use, performance and benefits of CAV technology and mobility services in an accessible and globally recognizable context.

SMLL: L provides an open innovation environment for the exchange of ideas and development of technical and business solutions for all existing and future stakeholders in the mobility market. The ambitious project is being managed by a consortium led by TRL and DG Cities and backed by government from their £100m UK CAV test bed competitive fund.

Our specialized areas include:
· Alpha testing of vehicles and relevant systems
· Beta testing of mobility services
· Real-world validation of digital-twin simulation
· Testing of enabling infrastructure for the future of mobility
· Research on urban adaptability and integration of mobility services

THE FUTURE
OF TRANSPORT

TRL (Transport Research Laboratory)

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TRL (Transport Research Laboratory) 英國運輸研究實驗室是卓越交通的發展中心。我們為陸地上運輸工具與汽車、賽車運動、保險和能源相關市場提供創新的研究、技術和軟體解決方案。

獨立於政府、企業和學術界，TRL為組織提供科學證據基礎，成就交通發展的創新。TRL核心專業領域包括運輸安全、車輛工程與模擬、調查和重大事故鑑識、人為因素和行為科學、智能交通系統、基礎設施資產管理和永續發展與氣候變化。

TRL同時也負責指導格林威治市的自駕車計畫 (GATEway Project)。

TRL is a centre of excellence for future transport. We provide innovative research, technology and software solutions for surface transport modes and related markets of automotive, motorsport, insurance and energy.

Independent from government, industry and academia, TRL provides organisations with the evidence-base to enable future innovation in transport. Core areas of expertise include transport safety; vehicle engineering & simulation; investigations & major incident forensics; human factors & behavioural science; intelligent transport systems; infrastructure asset management; and sustainability & climate change.

TRL is also supervising the Greenwich Automated Transport Environment project (GATEway project)

TTS Group Ltd

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TTS是為全球學校設計，創造和提供教育資源的創新領導者。30多年來，我們一直在創造和開發兒童學習的各個方面資源。透過與教師和教育專業人員密切合作，我們每年能夠開發數百種資源，激勵教師和吸引兒童。這些教育資源經過充分的嘗試和測試，為客戶的購買增添信心。

Here at TTS we are leaders in distribution and innovation who design, create and supply educational resources to schools worldwide. We have been creating and developing resources to cover all aspects of children's learning for over 30 years. Working closely with teachers and education professionals, we are able to develop hundreds of resources to inspire teachers and engage children each year. These resources are fully tried and tested to give you the confidence you need when buying educational resources.

Westfield Technology Group
(Westfield Sportscars Ltd)

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Westfield科技集團（Westfield Technology Group）旗下機構包括Westfield跑車（Westfield Sportscars）公司、Westfield自駕車(Westfield Autonomous Vehicles)、GTM汽車（GTM Cars）和全國工程學院（National Engineering Academy）。

如今全球有兩萬多輛的使用中汽車出自本集團。我們設計、製造和銷售由人為操控或全自動駕駛的燃油、油電混和動力與純電動車，適合行駛於一般道路、私人場所和賽車場。

POD電動自駕車首度投入運輸是在倫敦希斯洛機場（Heathrow Airport）的UltraPRT無人駕駛捷運系統，自2011年開始在該機場第五航廈提供商運服務。Westfield集團在2014年向希斯洛機場建議針對POD進行進一步研發，以供行駛於行人徒步區、馬路和人行道，利用當前的新科技讓POD可以布署於任何場所。

Westfield集團已提升POD的性能，在英國進行18個月以上的密集開發與測試後，可布署於全球各地的各種用況環境。

Westfield集團是英國自駕車代工產業的重要成員，所出廠的全自動駕駛車數量居英國所有業者之冠。本集團現正積極參與英國的GATEway自動駕駛運輸系統計畫，負責為該系統打造無人駕駛車。

Westfield Technology Group consists of Westfield Sportscars Limited, Westfield Autonomous Vehicles, GTM Cars and the National Engineering Academy.

Today with over 20,000 vehicles in operation around the globe, the Group design, manufacture and sell petrol, hybrid and pure electric human driven and fully autonomous vehicles for use on the road, in private places and on the race track.

The POD started life at Heathrow Airport on the UltraPRT, where the POD has been in commercial service at Terminal 5 since 2011. In 2014 Westfield approached Heathrow to look at taking the POD and developing it further for use in pedestrian areas, roads and pathways so that it could be deployed elsewhere using new technology that is now available.

Westfield have now taken the POD to the next stage and have undergone over 18 months of intense development and trialling in the UK, so that it can be deployed in different use case locations around the world.

Westfield are a key part of the UK Autonomous Vehicle OEM delivering more fully Autonomous Vehicles than anyone else in the UK. It is heavily involved in the UK's GATEway project that it built driverless pods for the transport systems.

格林威治皇家自治區政府
Royal Borough of Greenwich
(represented by DG Cities Ltd)

ROYAL *borough of*
GREENWICH

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城市簡介

位於大倫敦東南部的格林威治自治區政府是智慧城市創新的領袖，其所擘畫的智慧城市計畫目標宏大，由一支專責團隊領導，並和該區政府所成立的商業公司DG Cities攜手合作。格林威治積極參與許多受到高度矚目的計畫，包括成為全英國第一個公開測試自動駕駛車上路的地區、第五代(5G)行動通訊應用的測試地，以及歐洲的智慧城市示範區。格林威治擁有成功的創新中心(Innovation Centre)，吸引許多積極從事智慧城市創新的國際企業進駐。該區亦是英國智慧行動生活實驗室(UK Smart Mobility Living-Lab) 計畫的所在地；此計畫不但為連網自駕車提供測試環境，還成立一座營建和不動產創業育成中心，以及格林威治城市洞察實驗室。

City Intro

The Royal Borough of Greenwich is a leader in smart city innovation. Its ambitious smart city programme is led by a dedicated team working alongside its commercial arm, DG Cities. Greenwich is active in many high profile initiatives, including the first UK public trials of autonomous vehicles; a test-bed for 5G applications; and a European demonstrator for smart cities. It manages a successful Innovation Centre which has attracted many international businesses active in smart city innovation, and hosts the UK Smart Mobility Living-Lab - a test environment for connected and autonomous vehicles; a construction & real estate incubator; and Greenwich's city insights lab.

彼得伯勒
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参訪團員介紹

城市與公司簡介

距倫敦僅50分鐘路程，是英國發展最快的城市之一。

Opportunity Peterborough是一個協助彼得伯勒經濟發展的組織。此機構負責推動彼得伯勒的對內投資，同時支持當地英國公司的拓展。Opportunity Peterborough與彼得伯勒市議會(Peterborough City Council)合作推廣一個名為彼得伯勒DNA (Peterborough DNA)的計畫。這是享譽國際的未來城市計劃，這項計畫引領了全新的循環，創造整個城市的經濟。

本機構協助許多英國智慧城市的願景，促進當地經濟發展，並執行由英國國際發展部(DFID)資助的所資助的智慧城市領導力計劃，改造印度的阿馬拉瓦蒂市(Amaravati) 以及中央邦 (Madhya Pradesh)。

City & Company Intro

Located just 50 minutes from London, Peterborough is one of the UK's fastest growing cities.

Opportunity Peterborough is an economic development company responsible for driving inward investment to Peterborough and supporting local companies to grow. We work in partnership with Peterborough City Council to deliver Peterborough DNA, the internationally acclaimed future cities programme which is spearheading a new circular approach to running the city's economy.

We support a number of UK cities with their aspirations to boost their local economies and deliver a DFID-funded smart city leadership programme for the Indian city of Amaravati and for the state of Madhya Pradesh.

西洛錫安
West Lothian Council

West Lothian Council

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城市簡介

西洛錫安的中心位置與良好的商業和勞動市場連結性,使該地區成為蘇格蘭的經濟中心。西洛錫安地理位置優越,與蘇格蘭60%的人口距離皆在一個小時的車程內,對客戶、供應商和勞動人口的接觸相當方便。該地區位於愛丁堡和格拉斯哥之間,地處富裕的愛丁堡和蘇格蘭東南部城市地區的中心點,被視為蘇格蘭未來經濟增長的關鍵。

City Intro

West Lothian central location and excellent business and labour market connections, market the area as Scotland's economic hub. West Lothian is ideally located with 60% of Scotland's population within a one hour drive, making for easy access to customers, suppliers and workforce. The area is strategically located between Edinburgh and Glasgow at the hub of the wealth creating Edinburgh and South East Scotland City Region, identified as key to Scotland's future economic growth.