

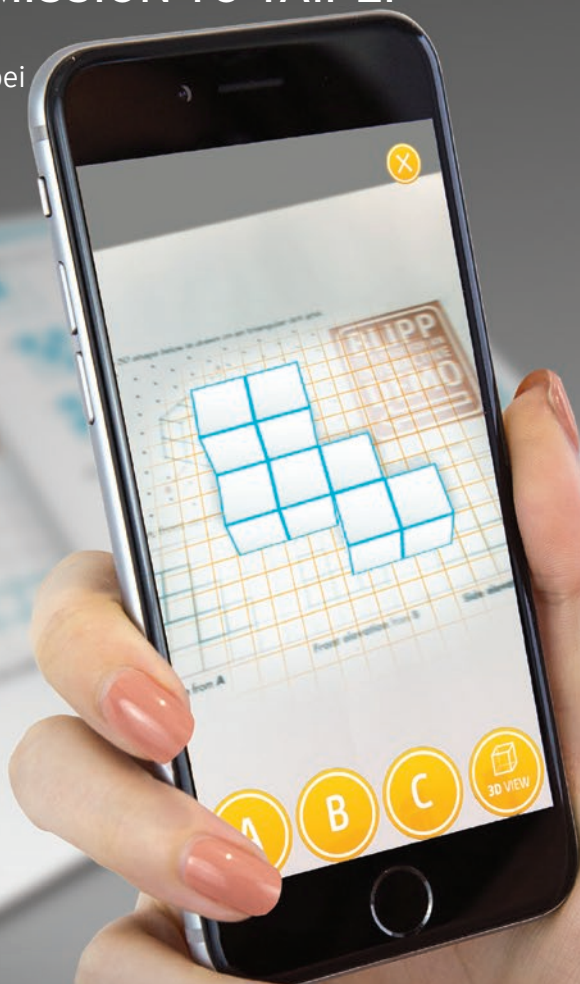
英國智慧城市參訪團

UK SMART CITIES MISSION TO TAIPEI

21-24 February 2017

Smart City Summit & Expo, Taipei

UK pavilion: J432



British Office
英國在台辦事處



Department for
International Trade
國際貿易部



產業概述

英國智慧城市市場

1

全球超過80%的國內生產毛額(GDP)來自城市，再加上人口快速成長和都市化程度越來越高，預料全球在2020年前會有30座「超級城市(mega city)」，對於透過「智慧城市(smart city)」概念提供更佳生活品質和永續生活的需求也越來越高。

2

智慧城市科技係利用跨產業解決方案因應都市的主要挑戰，例如資源利用最佳化、提高能源使用效率、智慧交通管理，以及提供更有效的健康照護服務等。

3

預料在2020年前，全球的智慧城市解決方案和相關附加服務市場將達到每年4,080億美元的規模。

4

英國的智慧城市專業技術以匯聚並整合健康照護、運輸、教育、能源、智慧電網、環境打造和數位媒體為核心。

5

英國的國際智慧城市工程諮詢、設計與規劃專業技術尤其強大，奧雅納(Arup)、阿特金斯(WS Atkins)和莫特麥克唐納(Mott Macdonald)等英商企業都是全球智慧城市計畫的尖兵。

6

在健康照護方面，英國是歐洲成長最迅速的「輔助生活護理(assisted living treatment)」市場之一，擁有國際性的遠距醫療和遠距照護產品與系統專業技術。

7

英國政府在物聯網(Internet of Things)、安全科技、智慧搜尋、超級電腦運算，以及系統模型建造與分析等智慧城市開發的重要相關領域，贊助多項尖端研究計畫。

4,080億美元

**2020年的全球
智慧城市市場規模**

30

**2020年的全球
超級城市數量**

產業概述

英國的智慧城市專業技術

英國早已從工業經濟轉型為後工業經濟，如今又帶頭從後工業經濟轉型為知識經濟。

英國企業是智慧城市產品與服務的世界領袖，渴望將相關技術出口到海外，協助全球其它地區改善都市環境。

英國擁有的智慧城市產業專業技術包括：

城市設計、規劃與建築

- 英國建築公司：共有1.2萬多家企業提供6.7萬個工作機會，2015年營業總額達60億英鎊
- 英國開發的BREEAM綠建築標準和建築資訊管理(BIM)軟體廣獲國際採用

基礎建設、工程與營建

- 英國土木工程公司：共有1.9萬多家企業聘僱19.7萬人，營業總額達390億英鎊

- 英國的營建與土木工程業者在世界各地領導重大都市基礎建設開發計畫

資料、軟體與分析

- 英國資通訊(ICT)產業：提供130萬個工作機會，產值在英國的附加價值毛額(gross value added, 簡稱GVA)占比達8%
- 英國是城市開放資料與空間資料分析、模型建造，以及視覺化領域的世界領袖

專案管理、融資與不動產

- 英國的專業和商務服務在全球市場極具競爭力；在經濟合作暨發展組織(OECD)已開發會員國的進口總額中，有12%來自英國，占比僅次於美國

- 英國將其專長優勢應用於全球重大基礎建設與都市開發的融資與專案執行

公眾參與和服務設計創新

- 英國企業為全球各地提供以使用者為中心的創新服務設計解決方案
- 英國各城市和市民組織徹底改造公民參與城市共造過程

如需更多訊息或進一步瞭解英國智慧城市發展及相關廠商，請聯繫以下相關負責人：

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格林威治皇家自治區政府

Royal Borough of Greenwich



**Councillor
Denise Hyland**
Leader of the Council



**Councillor
David Gardner**
Cabinet Member for Health
and Adult Social Care



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位於大倫敦東南部的格林威治皇家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创新中心(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，還成立一座營運和不動產創業育成中心，以及格林威治城市洞察實驗室(City Insights Lab)。

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.



City of Peterborough- Opportunity Peterborough



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彼得伯勒市(Peterborough)是英國成長最快速的城市之一，擁有多元文化的20萬人口，使用的語言超過140種。當地的商業經濟也相當多元，而且欣欣向榮。該市希望藉由當地發達的基礎建設吸引更多投資。

Opportunity Peterborough是不以營利為目的的私人企業，負責為彼得伯勒市(Peterborough)招徠新投資，並協助當地既有企業成長。此外，該公司不但負責領導彼得伯勒市(Peterborough)創新的技能培訓計畫，以確保該市能為在地企業提供適當的人才，還推動多項支持當地環保志業的計畫。過去三年來，該公司和彼得伯勒市(Peterborough)政府合作，為該市執行「未來城市」計畫，針對該市面臨的重大挑戰提出多項創新性對策。

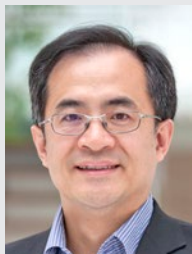
彼得伯勒市(Peterborough)除獲選為英國四大未來城市示範城之一，還贏得國際認可，在2015年西班牙巴塞隆納智慧城市展覽(Barcelona Smart City Expo)中榮獲「世界智慧城市(World Smart City)」的殊榮。

Peterborough is one of the UK's fastest growing cities. It has a multi-cultural population of 200,000 people, with over 140 different languages spoken. Its business economy is equally diverse, and vibrant, and the city is looking to exploit its excellent infrastructure to attract more investment.

Opportunity Peterborough is a not-for-profit private company responsible for attracting new investment to the city and supporting existing companies to grow. It also leads Peterborough's pioneering skills programme, ensuring we have the right talent available for our local businesses, as well as delivering a number of projects that support the city's environmental aspirations. Over the last 3 years, Opportunity Peterborough, in partnership with Peterborough City Council, has delivered the city's 'future cities' programme, generating innovative solutions to real city challenges. As well as becoming one of only four UK 'Demonstrator' cities, Peterborough also received international recognition when it became 'World Smart City' at the Barcelona Smart City Expo in 2015.

ARUP

奧雅納工程顧問公司



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參訪團員介紹

奧雅納是全球眾多知名項目的核心創意力量，業務橫跨建築環境的各個領域和不同行業。我們在40個國家設立了92家分支機構，擁有超過13,000名設計、工程、規劃和諮詢專業人員，用創意與熱忱在世界各地營建創新的項目。

從智慧城市的頂層規劃到建築和基礎設施的數字化建構，奧雅納提供的城市發展服務以人為本，以數字科技為驅動，優化運營管理，使城市生活更便捷，更美好。

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 92 offices in 40 countries our 13,000 designers, engineers, planners and consultants deliver innovative projects across the world with creativity and passion.

From policy advice to digital design for buildings and infrastructure, 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, enabling a smarter better living.

安謀國際科技股份有限公司

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ARM致力於研發半導體智慧財產權、並已成為全球先進數位產品的核心。ARM的技術驅動了新市場的發展與產業和社會的轉型，並無形地為全球網路使用者創造新機遇。其低功耗且可彈性配置的處理器及相關技術為任何需要計算功能的領域加入智慧功能，應用範圍橫跨感測器到伺服器，覆蓋智慧手機、平板電腦、數位電視、企業級基礎架構與物聯網應用。

ARM創新技術被合作夥伴廣泛的授權採用，基於ARM架構的晶片累積出貨量迄今已突破900億。ARM通過ARM Connected Community為開發者、設計人員及工程師們消除了產業創新障礙，並為領先的電子企業提供快速且可靠的產品上市管道。如欲加入社區討論，請點選連結：

<http://community.arm.com>。

ARM technology is at the heart of a computing and connectivity revolution that is transforming the way people live and businesses operate. From the unmissable to the invisible; our advanced, energy-efficient processor designs are enabling the intelligence in 90 billion silicon chips and securely powering products from the sensor to the smartphone to the supercomputer. With more than 1,000 technology partners including the world's most famous business and consumer brands, we are driving ARM innovation into all areas compute is happening inside the chip, the network and the cloud.

Auriplex



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Auriplex總部位於英國劍橋(Cambridge)，專門研發創新的視/聽覺科技和產品。該公司將其第一代助聽器產品結合新一代智慧型手機，推出「聽覺的嶄新概念」解決方案，不只在技術上達成創新，在市場研究策略上也獨創一格。

Auriplex based in Cambridge, offers innovative hearing/audio technologies and products. First generation iEar product and the next generation Smartphone “A new concept in hearing...” solutions, are not only innovative in technology but also in the market reach strategy.

Briteyellow Ltd.



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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 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(台灣分公司) British Standards Institution (BSI)

bsi. 英國標準協會



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參訪團員介紹

BSI 英國標準協會為全球性的標準驗證機構，專門提供企業必要的管理解決方案，將最佳標準實務轉換成卓越的日常表現。BSI 成立於1901年，為全球第一個國家標準機構，也是國際標準組織ISO的創始會員。成立一世紀以來，BSI持續協助全球企業進行改革，國際上多數企業組織採用BSI所創始之標準，來協助提昇績效、降低風險、並永續成長。BSI的標誌也以卓越著稱，包括著名的 Kitemark™標誌而BSI所制定的各種標準亦帶動了全球卓越發展。

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 is the UK National Standards Body and a founding member of the International Organization for Standardization (ISO). Over a century later it continues to facilitate business improvement 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. BSI is an organization whose standards inspire excellence across the globe.

Cascoda Ltd



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Cascoda是一家無廠半導體公司，總部位於英國。

該公司所開發的無線裝置CA-8210，資料傳輸範圍媲美WiFi，耗電量卻和低耗電藍牙相當。

CA-8210使用2.4GHz無線頻段傳輸資料，所採用的無線網路標準為IEEE 802.15.4，即所謂的紫蜂（ZigBee）。紫蜂是家用、智慧建築和工業自動化等物聯網所使用的主要網路協定。

Cascoda透過技術提升資料傳輸範圍，並減少耗電量，有助終端產品降低設備、安裝和維修等成本。

Cascoda is a fabless semiconductor company, based in the UK.

Cascoda has developed a radio device that delivers communication with the range of WiFi, but for the power consumption of Bluetooth Low Energy. Cascoda's product is called the CA-8210. The product operates in the 2.4GHz radio band using the IEEE 802.15.4 worldwide wireless standard, better known as ZigBee. This protocol is a key enabler for the 'internet of things' for use in home, building and industrial automation.

The improved range and lower power consumption of Cascoda's technology benefits end products by reducing equipment cost, installation cost and maintenance cost.

Data Performance Consultancy Ltd



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Data Performance Consultancy (簡稱DPC 公司) 最近贏得英國科技策略委員會(Innovate UK)一項金額高達150萬英鎊的合約，將負責打造使用WASP系統的智慧城市平台。WASP的全稱為工作流程分析與社會採購 (Workflow Analytics and Social Procurement)，可用於衡量社會衝擊和列舉城市資料需求的細目。

DPC和許多夥伴合作，包括為Smart Applications公司和亞馬遜網路服務(Amazon Web Services，簡稱AWB)研究感應科技的科技創新中心Sensor City在內。Smart Applications和AWB也是DPC的基礎設施即服務 (Infrastructure as a Service，簡稱IaaS) 夥伴。DPC擁有眾多合作夥伴，加上利物浦大學(University of Liverpool)開設利物浦智慧城市創新中心(Liverpool Smart City Innovation Hub)，未來DPC會以商業夥伴之姿，和各大學合作進行智慧城市模型建構 (Smart City Modelling)的研究與諮詢工作。

Data Performance Consultancy (DPC) have recently won a contract worth £1.5 Million by Innovate UK to build a Smart City Platform. The System is called WASP and stands for Workflow Analytics and Social Procurement. Its delivers measurement of social impact and provision of mapping out a city's data needs.

DPC other partners include Sensor City, which carries out research into sensor technology for Smart Applications and Amazon Web Services who are our IaaS partner. This combined with the opening of the Liverpool Smart City Innovation Hub at UoL, DPC will act as a commercial partner with the Universities to deliver Research and Consultancy for Smart City Modeling.

Movement Strategies



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我們是全球最大、經驗最豐富的獨立專業人流顧問公司。

本公司獨到之處，在於不但將人員移動和行為資料的分析與應用專業知識融入商業決策中，還擁有無可匹敵的環境打造設計和營運諮詢資歷。

過去十餘年來，本公司在人群動力學和人員移動分析上屢有創新突破，且持續提升自身能力，尋求以更佳方式達成客戶的目標。

例如本公司是英國首屈一指的行動電話資料分析機構，幫助客戶了解群眾的移動和行為模式，並將之融入商業策略中。

我們的工作可強化人們對某一地點、空間或服務的體驗，進而促成更好的商業表現。

We are the largest and most experienced independent, specialist people movement consultancy in the world.

Uniquely, we combine expertise in the analysis and application of movement and behavioural data to inform business decisions with an unrivalled track record of design and operations consultancy for the built environment.

For over ten years we have been breaking new ground in crowd dynamics and people movement analytics and continuously evolving our capability, exploring smarter ways to achieve our clients' objectives.

For example, we are the UK's leading analysts of cellular phone data, helping our clients to understand people's movement and behaviour, to inform their commercial strategies.

Our work enhances the way people experience a place, a space, or a service and drives better business performance.



MyCognition

MyCognition



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MyCognition公司改革認知能力(精神健康)的測量與改善方式。良好的認知能力讓我們得以實踐與達成生活目標。本公司提供專為消費者、學校和企業設計的評估與個人化認知訓練等數位計畫。

教育

提高兒童的學習能力，對於有學習或行為障礙者的幫助尤其大。

企業員工健康

我們為企業員工評估和改善精神健康。企業可將本公司量身打造的認知健康計畫，納入為員工與眷屬福利項目。

臨床健康

本公司正進行11項臨床實驗，針對多種精神健康狀況提供相關產品。

領導/管理

協助培養領導/管理技能。

MyCognition has transformed the measurement and improvement of cognition (“mental wellness”) Good cognition enables us to perform and reach our life goals. Our digital programmes, including assessments and personalised cognitive training, are designed for consumers, schools and companies.

Education

Increasing children's capacity to learn especially benefiting those with learning or behavioral difficulties.

Corporate Health

We measure and improve employee mental wellness. Our tailored cognitive health programmes can be accessed as part of employee benefits for individuals and their families.

Clinical Health

Eleven clinical trials delivering products targeting a range of conditions.

Leadership/Management

Building Leadership/Management skills.

The Larkfleet Group of Companies



Paul Adams
Managing Directors

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www.larkfleetgroup.co.uk

Larkfleet企業集團總部位於英國林肯郡(Lincolnshire)的Bourne，旗下辦事處、門市、工廠和建築工地遍布於劍橋郡(Cambridgeshire)、林肯郡、諾丁罕郡(Nottinghamshire)、Peterborough市和拉特蘭(Rutland)郡，員工總數約150人。

本集團是：

- 英國前50大住宅營建商
- 主要再生能源計畫開發商
- 新能源和建築技術研究機構
- 協助建築物提升能源使用效率
- 開發永續發展住宅與社區

Based in Bourne, Lincolnshire, the Larkfleet Group of Companies employs around 150 people at offices, stores and factories and on construction sites throughout Cambridgeshire, Lincolnshire, Nottinghamshire, Peterborough and Rutland.

We are:

- One of the top 50 house builders in the UK.
- A major developer of renewable energy projects.
- Researching new energy and building technologies.
- Providing energy-efficiency improvements for buildings.
- Developing sustainable homes and communities.

TECHNOLOGY IS

GREAT

BRITAIN & NORTHERN IRELAND



The UK is developing innovative infrastructure solutions, like information displays that integrate real-time data from across different transport modes. For joined-up Smart City thinking and delivery, choose the UK.

Interactive bus stop with a real-time mapping tool
Regents Street, London

www.great.gov.uk



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GREAT

BRITAIN & NORTHERN IRELAND

Worth £6 billion and delivered by a 40,000 workforce, Britain's cyber security sector is at the forefront of innovation and new technologies. Choose the UK for trusted digital transactions.

*BT Security Operations Centre
Sevenoaks, Kent*

www.great.gov.uk



BUSINESS IS

GREAT

BRITAIN & NORTHERN IRELAND

For the easiest major economy in Europe to do business in, with a dynamic location and stable investment environment, choose the UK.

*Flight paths
Europe*

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