

## **DIT – APAC Innovation**

**国际贸易部) ——亚太地区创新**

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## **Introduction – The UK Brings Innovation to Life**

### **简介——英国为创新注入生命，点亮人类生活**

The world is advancing at an unprecedented rate with a new technological breakthrough coming into view on the horizon seemingly every week.

世界正以前所未有的速度向前发展，似乎每周都有新的技术突破进入人们的视野。

Bold new concepts such as driverless cars, bleeding edge advances in financial and medical technology, even tech embedded into the very fabric of the cities we live in will, we are told, transform everything we do.

大胆的全新概念，如无人驾驶汽车、金融和医疗领域的尖端技术，甚至嵌入我们所居住的城市的结构中的科学技术，将改变我们所有的行为方式，这些事实堪称人尽皆知。

But when?

但，改变何时会发生？

The answer is right now.

答案是：现在。

Because conditions in the UK are allowing companies to find ingenious ways to transform tomorrow's technologies into tangible applications that have real relevance for businesses in the here-and-now. They have found ways to use AI to make old age less lonely, to improve prediction accuracy for heart disease diagnosis and to neutralise cyber-attacks before they take hold of a company's systems and data.

英国的各种条件可使各类公司可巧妙地将未来的技术转化为与企业当下真正相关的实际应用。相关企业已经找到了利用人工智能减少老年人孤独感、提高心脏病诊断的预测准确度、以及在一家公司的系统和数据被肆意攻击前即化解网络攻击的方法。

The business environment in the UK enables companies to test and refine their systems to accelerate the development of new technologies, which is why Amazon chose Cambridgeshire as the place to pioneer their drone delivery service.

英国的商业环境允许各类公司对其系统进行测试和改进，以加速新技术的开发，这就是亚马逊选择剑桥郡作为他们开拓无人机配送服务地方的原因。

These are just a handful of examples of how The UK brings innovation to life.

这些只是“英国为创新注入生命，点亮人类生活”的若干例子。

Globally it leads in the areas of financial technology (fintech), big data, AI and research and development, among others, and is the undisputed digital capital of Europe. Its culture is unique, at the forefront of innovation with a proud heritage in leading progress and development from which the whole world has benefited. The UK's thought-leaders and problem-solvers have been disrupting thinking and creating solutions to complex challenges for centuries, and today it remains a hotbed of talent, ideas and application fit for the future.

英国在全球金融科技、大数据、人工智能和研发等领域处于领先地位，是欧洲无可争议的数字之都。英国拥有独一无二的文化，走在创新前沿，有着引以为豪的引领进步与发展的优良传统，其发展成果惠及全球。几个世纪以来，英国的思想领袖和善于解决问题的人士以颠覆性思维提出应对复杂问题的解决方案。时至今日，英国仍是培育人才、激发创意、开发适用未来应用的热土。

Whether you're wondering how AI can improve your business's productivity and drive innovation or you're looking to expand your operation into a market that already has the tech expertise and infrastructure to help you to hit the ground running, read on below to find out more about how the UK is at the forefront of technological achievement in your sector.

无论您是想知道人工智能如何能提高您企业的生产力和推动创新，或是您希望把运营拓展到已拥有技术专长和基础设施、并可助力您加速成长的市场，通过阅读本文，您可以进一步了解英国在您所在的行业如何做到在技术成就上先人一步。

This paper will examine the opportunities in the UK and highlight what makes it a great place in which to start up, scale up and invest.

本文将检视英国的机遇，并重点介绍是什么让英国成为一个创业、扩大规模和投资的理想之地。

## **END OF SECTION**

本节结束

## **SECTION ONE:**

第一节：

### **A History of Innovation**

#### **创新史**

The UK retains its heritage as a leader in the creation and application of technology and innovation, education and development, and continues to drive progress at a rapid rate, building on its reputation as a source of cutting-edge technology. Low corporation tax rates, incentives for UK-based tech businesses carrying out research and development activity, and a diverse and highly skilled workforce have all contributed to the UK being named the undisputed digital capital of Europe by TechNation.

英国保留了其在技术与创新、教育与发展领域的创造和应用的传统领先地位，并作为前沿技术的提供者，继续快速推动社会进步。由于较低的企业税率、对从事研发活动的英国科技企业的激励措施，以及多样化和拥有高技能的劳动力，英国被 TechNation 评为欧洲无可争议的数字之都。

Throughout history the UK has led the way with innovation and technology. As the home of the Industrial Revolution, the UK was at the forefront of the rapid development that reshaped society and transformed the lives of people across the world with a unique combination of inventiveness and pragmatism. From 1712's unveiling of first steam-driven piston engine to the beginning of the construction for Isambard Kingdom Brunel's Great Western Railway in 1836 and onwards to the age of automotive and electricity, the UK's technological innovation and creative thinking has led progress at an unprecedented rate.

纵观历史，英国始终引领技术和创新。作为工业革命的发源地，英国走在快速发展的前沿，以独特的发明创造与加务实精神重塑了社会，改变了世界各地人民的生活。从 1712 年第一台蒸汽活塞发动机的问世，到 1836 年伊桑巴德·金德姆·布鲁内尔（Isambard Kingdom Brunel）的大西部铁路建设的开始，再到汽车和电气时代，英国崇尚技术创新，秉持创意思维，以前所未有的速度引领着进步。

Since Professor Sir Tim Berners-Lee invented the World Wide Web in 1989, the UK has made itself a hub for the world's most cutting-edge and successful tech organisations and, with strong government support, attracts more international investors than any other European country.

自从蒂姆·伯纳—李爵士（Sir Tim Berners-Lee）于 1989 年发明万维网以来，英国已经成为世界上最前沿、最成功的科技组织中心。在政府强力支持下，英国吸引的国际投资者比任何其他欧洲国家都多。

The world continues to change as modern cities become 'smarter', filled with life-enhancing technology built to improve the safety and quality of life for its citizens. The UK's recent history shows uninterrupted progress. Between 2009 and 2010 there was a staggering 78% increase in tech companies started in the UK, with growth at an exceptional rate sustained until 2016. The following year, there were 80,000 new companies registered within the tech sector. The hunger for growth and innovation is palpable, and the UK has a wealth of exciting opportunities and partnerships to be found across the country.

世界在不断变化，现代城市变得“更智能”，随处可见的提高生活质量的技术，都在改善市民的安全和生活质量。近年来，英国展示出从未放缓的前进步伐。在 2009 年至 2010 年间，在英国所成立的科技公司的数量猛然增长了 78%，这种超常增长率一直持续到 2016 年。次年，科技行业注册的新公司有 8 万家。英国对增长和创新的渴望显而易见，全英各地涌现出很多令人振奋的机遇和合作伙伴。

## **Conditions in Which the Best Ideas Flourish**

### **最佳创意繁荣发展的条件**

#### **A Thriving Tech Ecosystem**

##### **蓬勃发展的科技生态系统**

The UK is an attractive space for the most exciting start-ups, with the lowest corporation tax in the G20, a range of highly competitive tax reliefs, access to private funding, well-established tech hubs and global talent, the ingredients for growth and speed to market are in plentiful supply. The technology ecosystem makes the UK a great place for international start-ups and scale-ups looking for support and investment, with UK firms attracting more capital than any other European country.

对于大多数最令人兴奋的初创企业来说，英国是一个极具吸引力的地方。英国的企业税是 G20 集团中最低的，拥有一系列极具竞争力的减税措施、获得私人融资的渠道、成熟的科技中心和国际化人才，为推动公司发展和快速进入市场的提供了充分的条件。对于想要寻求支持与投资的初创企业和需要扩大规模的公司来说，科技生态系统的优势无疑使英国成为他们的理想之地，英国公司所吸引的资本超过了其它任何欧洲国家。

The UK is home to crowdfunding platforms and alternative financiers such as Crowdcube, LendInvest and Funding Circle, the latter being one of the UK's leading fintech unicorns (businesses worth more than \$1 billion USD). These offer a range of funding options such as equity and mini-bonds, and peer-to-peer lending.

英国是众筹平台和另类投资方的大本营，例如 Crowdcube、LendInvest 和 Funding Circle。其中 Funding Circle 是英国金融科技独角兽公司（商业价值逾 10 亿美元）的领军者之一。此类机构提供了多种融资选择，例如股票和迷你债券，以及点对点（P2P）借贷。

Some funders – including Trillion Fund – focus on raising capital for organisations and projects driven by social responsibility, such as environmentally-conscious products and services.

包括 Trillion Fund 在内的一些投资商专注于为那些有社会责任感的组织和项目筹集资金，例如环保产品和服务。

The government-owned, independently-run British Business Bank makes financial markets work better for small businesses in the UK at all stages of their development, encouraging and enabling start-ups and scale-ups with support and links to partners including banks, leasing companies, VC funds and fintechs.

英国政府旗下独立运营的英国商业银行，使英国的金融市场在小企业发展的各个阶段都能更好地为其服务，并通过提供支持及助力它们与银行、租赁公司、风投基金和金融科技公司等合作伙伴建立联系，鼓励初创企业实现规模化扩张。

A range of tax reliefs are available such as the Enterprise Investment Scheme, Venture Capital Trust and Patent Box tax relief, the latter allowing companies to apply for a lower rate of corporation tax on profits earned from patented inventions and other innovations. The government has also made considerable progress on delivering a plan to unlock over £20 billion in patient capital to finance high-growth innovative firms.

英国还实施了一系列税收减免措施，包括公司投资计划、风险投资信托、专利税减免等优惠。专利税减免允许公司为专利发明及其它创新所带来的利润申请较低的企业所得税率。政府拟注入 200 多亿英镑的长期耐心资本以资助高速发展的创新公司，该计划已取得相当大的进展。

Innovate UK, part of UK Research and Innovation, supports businesses to develop and test new ideas, and funds business and research collaborations. There is a range of help available to businesses across all economic sectors and value chains and all regions in the UK. To date it has helped 85,000 organisations create around 70,000 jobs and added an estimated £18 billion of value to the economy.

创新英国（Innovate UK）是隶属英国研究与创新（UK Research and Innovation）的机构，支持企业对新理念进行开发和测试，并对于商业与研究合作提供资助。英国所有经济部门、价值链和所有地区的企业均可获得其提供的一系列帮助。迄今为止，它已为 85000 个组织机构创造了约 70000 个就业机会，并为经济带来了约 180 亿英镑的价值。

As a result of the widespread support available, the UK's tech sector is expanding 2.6 times faster than the wider economy, complemented by strong venture capital activity which has fuelled rapid growth. A new digital tech start-up is created in the UK every 50 minutes.

得益于广泛的支持和活跃的风险资本活动，英国科技行业发展迅猛，其扩张速度为整体经济的 2.6 倍。在英国，每 50 分钟就有一家新的数字科技初创企业诞生。

Forbes ranks the UK as the best country in the world for business, based on a range of factors including the strength of the workforce, innovation and lack of red tape. In fact, it takes just five days to set up a business in the UK compared to the OECD average of eight.

《福布斯》根据劳动力实力、创新和没有繁文缛节等一系列因素，将英国评为全球最适合经商的国家。事实上，在英国成立一个公司只需 5 天，而在经合组织（OECD）的平均设立时间为 8 天。

What started in London with Tech City is now becoming Tech Nation. Tech hubs have sprung up the length and breadth of the UK from Dundee in Scotland to Cornwall in the South, Norwich in the East

and Cardiff and Swansea to the West. Most excitingly, each region is developing its own distinct area of expertise – in Manchester, for example, groups and hubs are innovating new uses for technologies like Blockchain, while in London there is a strong data science community

英国蓬勃的科技发展始于堪称“技术之城”的伦敦，如今英国已成为“科技之国”。从苏格兰的邓迪到英国南部的康沃尔，从东部的诺维奇到西部的卡迪夫和斯旺西，英国各地的技术中心如雨后春笋般涌现。更令人兴奋的是，每个地区都在发展各自独特的专业领域——例如，在曼彻斯特，各类团体和中心正在创造区块链等技术的新用途，而在伦敦则有一个强大的数据科学社群。

The UK is packed with success stories like Starling Bank, an app-only mobile bank that gives customers the digital tools they need to effectively manage their money. Attracting investment of £48 million, one of the largest for a UK technology initiative, Starling now employs more than 230 people and hosts more than 230,000 personal, joint and business accounts.

在英国，类似 Starling Bank 的成功案例比比皆是。Starling Bank 是一家只提供应用程序的移动银行，为客户提供有效理财所需的数字工具。Starling Bank 共引入了 4800 万英镑的投资，是英国最大的科技项目之一。Starling Bank 目前约有员工 230 多人，已为客户开设的个人、联合和商业账户数量已超过 23 万个。

With a nation of over 65 million, early adopting consumers and a diverse business landscape - over 70% of international corporations' European Headquarters are based in the UK – the UK is a ready-made market for businesses seeking growth and expansion.

英国人口约 6500 多万，有多样化的商业环境和追求新潮的消费群——超过 70% 的跨国公司的欧洲总部设在英国。目前，英国已成为企业寻求商业增长和发展的既有市场。

## Focusing on the Capit

### 聚焦首都

Alongside the rise of other regions, London continues to shine. As the second most connected tech hub on the planet and the largest and fastest-growing in the UK, London supports nearly 200,000 tech companies with a combined turnover of £285 billion.

在其它新兴地区崛起的同时，伦敦则继续如一颗耀眼的明星一般闪耀在英伦三岛的上空。作为全球第二大、也是英国最大且发展速度最快的技术连接中心，伦敦为近 20 万家科技公司提供支持，总营业额达 2850 亿英镑。

Truly international, one-third of London's tech company customers are based outside the UK – a higher percentage than Silicon Valley. And 25% of the world's entrepreneurs report a significant relationship with two or more others based in London.

伦敦科技公司三分之一的客户来自英国以外，这一比例高于硅谷，堪称国际化的典范。世界上 25% 的企业家表示，他们与伦敦的两家或多家企业有着重要的关系。

The global technology giants all have significant presences in the city, committing to long-term investment. Google, for example, has more than 4,000 staff based in London, with the development of new offices making room for even more employees currently ongoing in the Kings Cross area.

全球科技巨头均在伦敦拥有举足轻重的运营规模，致力于进行长期投资。例如，谷歌（Google）在伦敦拥有 4000 多名员工，目前正在国王十字区建立新办公室，以为更多员工提供空间。

In turn, Facebook has plans to open offices in the same area with capacity for 6,000 employees, after Steve Hatch, MD for Northern Europe, called the UK 'one of the best places in the world to be a technology company'. And Amazon currently has 5,000 staff based across its three London offices in Shoreditch, Holborn and Barbican.

脸书（Facebook）公司北欧地区总经理 Steve Hatch 将英国称为“世界上最适合运营科技公司的地方之一”，随后，脸书（Facebook）公司也已计划在同一地区设立可容纳 6000 名员工的办公室。亚马逊（Amazon）目前在伦敦有三个办事处，分别位于肖尔迪奇、霍尔本和巴比肯，共拥有 5000 名员工。

Alongside the tech giants, London's start-up culture is thriving, most famously at Silicon Roundabout in Shoreditch but also stretching out to the surrounding areas.

除科技巨头外，伦敦的初创企业文化正处于蓬勃发展中，最著名的是位于肖尔迪奇的硅环岛（Silicon Roundabout），这种初创文化正在向周边地区蔓延。

Silicon Roundabout itself houses the biggest, most vibrant and most collaborative tech community in Europe. The name was coined in 2008 by the chief technology officer of Dopplr as a tongue-in-cheek observation of the congregation of digital companies flocking to the area around Old Street roundabout and the culture of shared expertise, innovation and learning that resulted.

硅环岛拥有欧洲最大、最有活力和最具合作精神的科技社区。硅环岛这一名字是 2008 年，Dopplr 公司的首席技术官提出的，而这位首席技术官的初衷只是针对老街环岛周围聚集的数字公司以及由此产生的专业共享、创新和学习文化提出一种幽默的形容。

Today, the Silicon Roundabout area has around 3,000 tech firms per square kilometre.

而现如今，硅环岛地区每平方公里就大约有 3000 家科技公司。

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## Tech Expertise Up and Down the UK

### 全英各地技术专长

The UK's technology scene is far wider than London alone. Within the UK, Huawei has identified Bristol, Manchester, Birmingham and Leeds as top smart cities outside London.

英国的科技领域涉及的城市远不止伦敦一个。在英国，华为已认识到布里斯托、曼彻斯特、伯明翰和利兹都是除伦敦以外的顶级智能城市。

Alongside its digital cities, the UK is developing digital suburbs and it is possible to follow a 'productivity power path' from London to the mouth of the River Severn, travelling along the M4 corridor and spreading to Southampton and Portsmouth.

在发展数字城市的同时，英国还在开发数字郊区，并可能顺着伦敦至塞文河口的“生产力之路”，沿 M4 高速走廊，延伸至南安普敦和朴茨茅斯。



Bristol in the South West tops the table for productivity of local tech ecosystems, and Leicester in the Midlands has experienced the largest increase in digital start-up births since 2006. Birmingham, also in the Midlands, is booming with an increase in start-ups of 10% last year, twice the national average.

英国西南部的布里斯托位居当地科技生态系统生产力榜首，而英格兰中部城市莱斯特自 2006 年以来经历了数字初创企业创建率的最大增长。同样位于英格兰中部的伯明翰，去年的初创企业数量增长了 10%，是全国平均水平的两倍。

Around the country there are significant growing digital clusters in Reading and Bracknell, Bristol and Bath, Manchester and Birmingham and emerging clusters in Southampton, Cornwall and Dundee.

在全英各地，雷丁和布拉克内尔、布里斯托和巴斯、曼彻斯特和伯明翰的数字公司呈现显著增长，而在南安普敦、康沃尔和邓迪，新兴公司也不断涌现。

Scotland is forging its own path in diversity in tech, with new figures showing the number of women joining the sector rose by more than 30% in the last two years. Edinburgh created two of the UK's best-known unicorns, Skyscanner and FanDuel, and was named the best UK city to launch a start-up in 2017. Along with Glasgow and Dundee, it contributed £2.4 billion of tech turnover in 2016, through disciplines including biotechnology, AI, fintech, space science and gaming. Last year alone 9,400 digital and tech businesses were registered in Scotland and the sector overall is worth nearly £4 billion.

苏格兰正在打造自身的科技多元化道路。新的数据显示，在过去两年中，加入该领域的女性人数增加了 30% 以上。爱丁堡拥有两个英国最著名的独角兽公司——Skyscanner 和 FanDuel，并被评为 2017 年最适合创业的英国城市。2016 年，爱丁堡连同格拉斯哥和邓迪，在生物技术、人工智能、金融科技、空间科学与游戏等领域创造 24 亿英镑的科技营业额。仅去年一年，就有 9400 家数字和科技公司在苏格兰注册，该行业总价值近 40 亿英镑。

Belfast in Northern Ireland has established itself as a tech hub, with nearly a hundred new tech businesses created in the city in 2016 alone and TechNation dubbing it as one of the most exciting tech clusters in the UK. Belfast is the number one city, globally, for fintech investments and number one in Europe for FDI software development.

位于北爱尔兰的贝尔法斯特已成为一个科技中心，仅 2016 年一年，就有近百家新兴科技公司创立于此，TechNation 称其为英国最激动人心的科技集群地之一。贝尔法斯特是全球金融科技投资的第一大城市，也是欧洲境内外商直接投资（FDI）软件开发的第一大城市。

Finally, in Wales, a new £20 million fund to help the expanding technology sector grow and was announced in 2018, while Cardiff-based Amplyfi is tipped to become a unicorn, a private firm with a valuation of £780 million. Wales is the most secure place in the UK to establish a technology business, according to the Welsh government, with 4,000 tech businesses and 40,000 people contributing more than £8 billion a year to the economy.

2018 年，英国在威尔士新启动了一项 2000 万英镑的基金，以帮助不断扩大的科技行业继续增长，而总部位于卡迪夫的 Amplyfi 有望成为一家估值为 7.8 亿英镑的私人独角兽公司。对于科技公司而言，威尔士是英国最适宜设立和开展业务的安全之地，根据威尔士政府的资料，威尔士拥有 4000 家科技公司和 4 万名员工，每年做出超过 80 亿英镑的经济贡献。

## **Celebrating the UK Unicorns**

英国独角兽公司盛况

The UK is home to 26 of the 69 European unicorns – private companies valued at \$1 billion USD.

欧洲独角兽公司共有 69 家，其中 26 家私人独角兽公司位于英国，总估值达 10 亿美元。

These include Darktrace, Deliveroo, Farfetch, Funding Circle, Improbable and TransferWise and are based in areas as diverse as London, Manchester, Oxford, Cambridge and Abingdon, a town in Oxfordshire.

这 26 家公司包括 Darktrace、Deliveroo、Farfetch、Funding Circle、Improbable 和 TransferWise，分布于伦敦、曼彻斯特、牛津、剑桥和牛津郡的阿宾顿镇等不同地区。

Analysis by Dealroom.co shows there are a further 51 potential unicorns currently based in the UK, each with a value ranging from £195 million to £780 million and with a combined value of £14 billion, coming from sectors including fintech, healthcare, AI, ecommerce and proptech.

Dealroom.co 公司的分析显示，目前英国还有 51 家潜在独角兽公司，每家公司市值从 1.95 亿到 7.8 亿英镑不等，总价值为 140 亿英镑，分别分布在金融科技、医疗保健、人工智能、电子商务和房地产科技等行业。

The UK is also home to seven of Europe's ten leading unicorn hunter funds, providing 22% of all venture capital invested in Europe in 2017, second only to the US.

在欧洲十大主要独角兽公司猎头基金中，有七个属于英国。2017 年，来自英国的投资占据了所有欧洲风险投资的 22%，仅次于美国。

Of the £2.49 billion VC funding raised by UK firms in 2018, 72% was attracted by tech companies. Investment into the UK's AI companies reached £736 million in 2018, an increase of 47% in just one year.

2018 年，英国企业筹集的 24.9 亿英镑的风投资金中，有 72% 被科技公司吸收。对英国人工智能公司的投资在 2018 年达到 7.36 亿英镑，仅一年就增长了 47%。

## **Transformation across the economy**

### **经济转型**

Within the core digital sectors, technology is also transforming other sectors to create emerging fields such as edtech, agritech, cyber security and healthtech.

在核心数字领域，技术也在改变其他行业，以创造新兴领域，如教育科技、农业科技、网络安全和健康科技。

The UK is already the global capital for fintech, which generated £6.6 billion in revenue and raised more than £500 million in investment in 2015 alone.

英国已成为全球金融科技之都，仅 2015 年，英国就创造了 66 亿英镑的收入，并吸引了超过 5 亿英镑的投资。

The UK also supports on average £1.3 billion a year in digital research and development, through the private sector, public investment and research carried out by the government. The government is backing public and private initiatives worth up to £14 billion which are designed to support research in

academia, start-ups and growing businesses. With money committed to unlock investment in cutting edge technology, this includes more than £6 billion for UK research and innovation.

英国还通过私营部门、公共投资和政府开展的研究，平均每年为数字研发行业注入 13 亿英镑的资金支持。目前，政府正在支持价值高达 140 亿英镑的公共和私人举措，旨在支持学术界、初创企业和成长型企业的研究工作。随着对前沿技术投资的开放，资金注入将包括支持英国研究与创新的 60 多亿英镑。

## **END OF SECTION**

本节结束

## **SECTION TWO:**

第二节：

### **Pioneering Technology**

#### **领先技术**

The transformative power of technology can't be underestimated. It has allowed us to transcend borders both physically, through planes, ships and spacecraft, and virtually, through the relationships, networks and communities created and hosted on social media. It has inspired collaboration and partnerships both locally and globally.

技术所带来的变革力量不容小觑。它使得我们可以通过飞机、轮船和飞船得以真实地跨越边界，也可以打破在社交媒体上创建的关系、网络 and 社区的无形界限。它激发了本地和全球的合作与伙伴关系。

It has revolutionised education, removing barriers to access and creating numerous ways for people to learn in a way that suits them. It has removed the need for people to carry cash and disrupted the world of entertainment to allow us to watch, play or listen to whatever we feel like, whenever we like.

技术使教育发生了革命性的变化，消除了获取教育的障碍，并为人们创造了多种适用于自身的学习方式。技术变革消除了人们对现金携带的需求，颠覆了传统的娱乐世界，让我们可以随时随地观看、播放或聆听任何我们喜欢的东西。

When it comes to solving societal challenges both old and new – from healthcare to education, infrastructure to entertainment – we are increasingly reliant on technology.

在解决新旧的社会挑战方面，无论是从医疗保健到教育、或是从基础设施到娱乐，我们都越来越依赖技术。

Development in the UK permeates all sectors of the economy - these solutions are driven by the most innovative technology available.

英国的发展渗透到经济的各个领域，这些解决方案由目前最具创新力的技术带动发展。

### **Healthtech**

健康科技

As UK's population continues to extend its life expectancy, its world-leading publicly-funded health service relies upon advances in technology to continue to save lives and improve people's quality of life.

随着英国人口预期寿命的不断延长，其世界领先的公共资助医疗服务依靠技术进步继续拯救生命，提高人们的生活质量。

Challenges to be faced include treatments for life-limiting diseases like cancer as well as chronic and acute conditions such as diabetes and heart disease.

即将面临的挑战包括治疗癌症等危及生命的疾病，以及糖尿病和心脏病等慢性和急性疾病。

Within the UK, the healthtech sector is expanding at pace as it addresses these problems, with Deloitte calculating the market for digital health solutions at a value of nearly £3 billion in 2018.

在英国，解决这些问题的同时，健康科技行业也在不断发展，据德勤的计算，2018 年数字医疗解决方案的市场价值接近 30 亿英镑。

The consumer-facing healthtech market covers innovations like wearables – FitBits, Garmins and other tracking devices – and games, apps and software that empowers patients to look after their health better. One of the top healthtech start-ups in the UK is Babylon Health which has created an app called GP at Hand that allows patients to video call their doctors on demand. This helps reduce the demand on the health service and promote preventative healthcare management.

面向消费者的健康科技市场涵盖了可穿戴设备——包括 FitBits、Garmins 和其他跟踪装置——以及游戏、应用和软件等创新产品，通过这些产品，患者能够更好地照顾自身健康。Babylon Health 是英国最顶尖的健康科技初创企业之一，它创建了一款名为“掌上医师”（“GP at Hand”）的应用程序，该应用让患者可以在需要时与医生进行视频通话，此举有助于减少对医疗保健服务的需求，促进预防性医疗保健管理。

Research organisations like the Francis Crick Institute, founded by a series of partners including charities, educational institutions and public bodies, utilise technology to understand the fundamentals of health and disease, to find new ways to prevent, diagnose and treat illnesses and conditions. A lively start-up scene encompasses bionics, robotics and AI to revolutionise every aspect of healthcare from prosthetics to communication between healthcare professionals.

类似 Francis Crick Institute 这样的研究所，由包括慈善机构、教育机构和公共机构等在内的一系列合作伙伴联合创建，它们利用技术来了解健康和疾病的基本原理，寻找预防、诊断和治疗疾病的新方法。一个生机勃勃的创业场景包括仿生学、机器人技术和人工智能，用以彻底改变医疗保健的方方面面，包括从假肢到与医疗保健专业人员之间的沟通。

A £1.3 billion investment was announced at the end of 2018 to support healthcare innovation in the UK. As part of the collaboration between the government and the life sciences industry, life-saving early disease technology will be developed using AI.

2018 年底，英国宣布投资 13 亿英镑支持医疗创新，作为政府和生命科学产业合作的一部分，将使用人工智能开发能够挽救生命的早期疾病诊疗技术。

## **Fintech**

### **金融科技在英国**

Customers want financial services available immediately, wherever they are in the world, on whatever device they are using. The UK's fintech industry, now worth more than £7 billion, has sprung up over the course of a decade to meet the needs of customers and was given a boost by The Second Payment Services Directive (PSD2), the new EU directive on open banking regulations, that came into force in 2018 that allows approved third parties access to customer data.

客户希望无论身处何方及使用何种设备，都能够随时随地使用金融服务。如今价值超过 70 亿英镑的英国金融科技行业，为满足客户需求，在过去的十年中迅速崛起，并得到了第二支付服务指令（PSD2）的鼎力支持。第二支付服务指令是欧盟关于开放银行监管并于 2018 年生效的新指令，该指令允许经批准的第三方访问客户数据。

The UK is home to fintech unicorns Funding Circle, a peer-to-peer lending app, and digital bank Monzo along with start-ups like Manchester-based AccessPay, a capital management firm. Fintechs are also springing up in response to innovations like Bitcoin and crypto currencies, as well as to improve processes and solve problems in established sectors.

英国是金融科技独角兽公司 Funding Circle——一个点对点借贷应用程序、数字银行 Monzo 以及一些初创企业，例如总部位于曼彻斯特的资本管理公司 AccessPay 的所在地。为响应比特币和加密数字货币等创新技术，以及改进流程和解决现有行业的问题，金融科技公司在兴起。

Elsewhere, insurance technology is using AI and chatbots to help customers with queries, offer targeted products and provide automated end-to-end solutions. For example, UK company Slice is a venture that allows customers who are renting homes or cars to only pay for insurance to cover the time they are renting them. UK fintechs such as Swift and Revolut are also collaborating on cross border payment schemes, having recently secured a license to operate in Japan and Singapore, while TransferWise is a UK fintech that uses peer-to-peer solutions for money transfer. TransferWise has now made a significant move into the Asia Pacific market, opening its regional HQ in Singapore with further operations in Japan, Hong Kong, Australia and New Zealand

在其它地方，保险技术正在使用人工智能和聊天机器人来帮助客户进行查询、提供有针对性的产品，并提供自动化端到端解决方案。例如，英国 Slice 公司允许房屋或汽车租赁的客户只需支付他们租赁期间的保险费。Swift 和 Revolut 等英国金融科技公司在合作实施跨境支付计划，最近获得了在日本和新加坡运营的许可，而 TransferWise 是一家英国金融科技公司，使用点对点解决方案进行资金转移。TransferWise 现已大举进军亚太市场，区域总部位于新加坡，并在日本、中国香港、澳大利亚和新西兰进一步开展业务。

## Infrastructure

### 基础设施

Tech and data are increasingly taking centre stage and driving infrastructure projects. Infotech solutions bring the physical and the digital together, such as through connected sensors that can actively manage traffic flow on motorways or maintenance in train tunnels.

技术和数据正日益成为人们关注的焦点，并推动着基础设施项目。基础设施技术的解决方案实现了数字世界和现实世界的完美结合，其中，通过连接传感器，对高速公路车流或火车隧道维护进行积极管理就是一个典型范例。

Technology is solving challenges ranging from dated and crowded transport networks to more cost-efficient energy, better public spaces and facilities, improved connectivity and more effective water and waste management.

如今，技术正在应对接踵而至的挑战，从陈旧拥挤的交通网络到更经济有效的能源、更好的公共空间和设施，再到连通性更高的、更高效水和废弃物管理，不胜枚举。

The UK government announced plans in early 2019 for £600 billion of funding for infrastructure development over the next ten years. This will cover projects including Crossrail (a brand new rail line extending 60 miles and connecting central London with surrounding counties to the East and West), the Thames Tideway Tunnel (a 25km tunnel under London's Thames river that will prevent the tens of millions of tonnes of pollution that currently pollute it every year) and the largest ever investment in the UK's Strategic Road Network. The UK's Strategic Road Network comprises approximately 4,500 miles of road and provides the capacity and connectivity to support national and local economic growth.

2019年初，英国政府宣布计划为未来10年的基础设施发展提供6000亿英镑的资金。这项计划包含了横贯铁路（一条连通伦敦市中心与东西各郡的全新铁路线，全长60英里）、泰晤士潮路隧道（Thames Tideway Tunnel）（一条位于伦敦泰晤士河下方的隧道，全长25km，建成后，泰晤士的污染每年可减少数千万吨），以及英国有史以来投资最大的战略公路网。其中，英国战略公路网全长约4500英里，无论是通行能力还是连通度均可支持国家和地方的经济增长。

This means that the UK has the fastest growing infrastructure investment of the seven largest advanced economies in the world.

这意味着，在全球最大的七大发达经济体中，英国的基础设施投资增长最快。

More modern approaches are being actively encouraged as part of this investment, from tech to manufactured components to renewable energy sources. A flurry of start-ups have sprung up in the UK to lead the way on sustainability and renewable energy, including smart energy systems like Qbots and Aerial Power, a start-up that delivers an automated drone to clean solar energy panels to maximise their efficiency. Electron provides blockchain technology to the energy sector as it transitions to smart grid infrastructure.

作为这项投资计划的一部分，从技术到制造部件再到可再生能源，英国正在以雷霆之势，鼓励应用更多现代手段。与此同时，许多初创企业身先士卒，已在可持续和可再生能源方面取得了卓越成果，其中包括Qbots、Aerial Power等智能能源系统。Aerial Power是一家初创企业，它提供无人机自动清洁太阳能板，以使其效率最大化。随着能源行业向智能电网基础设施转型，Electron公司为其提供了区块链技术。

Data from Pinsent Masons shows infrastructure companies want long-term access to technology through global joint ventures, with more than half expecting to enter one in the next three years.

来自Pinsent Masons的数据显示，基础设施公司希望通过全球合资企业长期获取技术支持，超过半数的公司希望在未来三年内能与一家这样的企业合资。

Infratech has come together with the creative industries to create smart cities around the UK, which include London, Bristol, Glasgow, Manchester and Milton Keynes. All are utilising tech in a variety of ways, from congestion charging to ease traffic, to city-wide networks of innovation involving local authorities, universities and industry partners.

目前，基础设施技术已携手创意产业，在英国各地着力打造了智能城市，其中包括伦敦、布里斯托、格拉斯哥、曼彻斯特和米尔顿凯恩斯。从收取拥堵费以缓解堵塞，到涉及地方当局、大学和行业伙伴的城市创新网络，所有城市都在以各种方式利用技术。

## Education

### 教育

Tech companies in the UK are helping to foster an education revolution. Online courses and learning have opened education up outside the traditional institution or classroom and apps and games help children learn in ways that are entertaining and effective.

英国的科技公司正合力掀起一场教育革命。网络课程和在线学习使得教育延伸至传统教育机构和课堂之外，应用程序和游戏能够让孩子们以有趣且有效的方式学习。

Education technology – better known as edtech – is one of the fastest-growing sectors in the UK, accounting for 4% of all digital companies. The market is growing by 22% year on year and is projected to reach £3.4 billion by 2021.

教育技术（英文简称为 edtech）是英国增速最快的行业之一，占有数字化企业的 4%。市场年同比增长 22%，预计到 2021 年将达到 34 亿英镑。

There is strong demand for tech in the classroom – it's been estimated that schools in the UK are spending nearly £900 million every year on innovative ways to improve learning. Start-ups like Curiscope use VR and AR to create immersive learning experiences for children, and Bright Little Labs helps children learn to code and provides tech products to classrooms such as drones. Innovations like Aula, a community platform, offers more efficient ways to connect staff and students across campuses. Edtech is also in demand in the consumer sector, with parents embracing new ways to help their children learn and grow like Tutorean, a tutoring platform using AI to connect pupils and tutors and Gojimo, an exam revision app for mobile devices.

课堂对技术表现出强劲需求——据估计，英国学校每年在改进学习的创新方式上支出近 9 亿英镑。像 Curiscope 这样的初创企业通过虚拟现实（VR）和增强现实（AR）技术为儿童创造沉浸式的学习体验，Bright Little Labs 则帮助儿童学习编程，并提供无人机等技术产品用于课堂教学。而像 Aula 这样的创新社区平台，则通过提供更为有效的方式来连接遍及不同校区的大学师生。教育技术在消费领域也颇受欢迎，家长们纷纷采用新的方式帮助孩子学习和成长，如 Tutorean 和 Gojimo。Tutorean 是一个利用人工智能联系学生和教师的辅导平台，Gojimo 则是一款用于移动设备的考试复习应用程序。

## Creative Industries

### 创意产业

The gaming industry alone is worth nearly £3 billion to the UK economy and the country is the fifth largest gaming market in the world. Home to established players Activision and Acclaim, it also has a thriving gaming start-up scene that includes innovations like mobile game maker Hutch and eSports provider Facelt which hosts and facilitates video game tournaments. Hutch has raised £4.29 million in two funding rounds, and Facelt £13.2million.

游戏行业本身为英国经济制造了近 30 亿英镑的价值，更不用说英国还是世界上第五大游戏市场。作为老牌游戏公司 Activision 和 Acclaim 的大本营，英国还拥有蓬勃发展的游戏初创企业，包括手游制造商 Hutch 以及负责主办和推动电子游戏赛事的电子竞技供应商 Facelt 等创新公司。Hutch 通过两轮融资共筹集了 429 万英镑，Faith 则筹集了 1320 万英镑。

Traditional hobbies and interests are also being upgraded and disrupted by technology. Startup.com identified Craft Gin Club, a subscription service for customers to discover the best premium gin brands at home, as one of the top start-ups in the UK in 2018. The company generated sales of more than £11 million within just one year.

随着技术发展，传统爱好和兴趣也在经历升级和颠覆。Startup.com 将 Craft Gin Club 评为 2018 年英国最顶尖的初创企业之一。Craft Gin Club 是一家提供订阅服务的公司，致力于为客户寻找国内品质最佳的高档杜松子酒品牌。该公司仅在一年内就创造了超过 1100 万英镑的销售额。

The UK's VR entertainment and media market is set to be worth more than £800 million by 2021 according to PWC, making it the fastest growing in the EMEA region. Last year the government announced it would invest up to £33 million in AR, VR and mixed reality. There are a range of funding opportunities for specific technologies like AR and VR, such as schemes from Innovate UK that support business-led research and development projects that enable immersive content to be created faster and more efficiently.

根据普华永道提供的预测，到 2021 年，英国虚拟现实娱乐和媒体市场的价值将超过 8 亿英镑，成为欧洲、中东和非洲地区增速最快的市场。早在去年，政府就宣布将在增强现实、虚拟现实和混合现实技术领域投资 3300 万英镑。对于增强现实和虚拟现实这样的特定技术，有一系列融资机会在等待着它们。例如创新英国（Innovate UK）推出的方案，支持企业为主导的研发项目，以期更快、更高效地创建沉浸式内容。

## **Security**

### **安全**

Cyber security is a fast-evolving ecosystem and globally there are around 230,000 new malware threats springing up every day – around 2.6 per second – with hackers becoming increasingly innovative. Hacking, AI, and satellites are among the threats that have been identified by the National Cyber Security Council and emerging technologies like quantum processing bring their own risks.

网络安全是一个快速发展的生态系统，全球每天都有大约 23 万个新的恶意软件威胁涌现（大约每秒 2.6 个），且黑客在作恶方面的创新能力越来越强。黑客入侵、人工智能和卫星是经国家网络安全委员会确定的威胁，而量子处理等新兴技术其自身也存在风险。

Solutions are equally innovative, utilising technologies like blockchain to protect data and improve security across industries. The UK is investing £1.9 billion in cyber security with the aim of becoming secure and resilient to cyberthreats by 2021, while remaining prosperous and confident in the digital world. The National Cyber Security Centre works with start-ups through initiatives like The Cyber Accelerator, which helps businesses navigate the early months, and CyberInvest, an exclusive community of industry, government and academia enhancing cyber security research in UK universities.

解决方案同样具有创新性，利用诸如区块链这样的技术来保护数据并提高各行业的安全性。英国正投资 19 亿英镑用于网络安全，其目标是在 2021 年能够灵活应对网络威胁，在实现网络安全的同时，保持数字世界的繁荣与自信。国家网络安全中心（NCSC）将通过 Cyber Accelerator 和 Cyberinvest 等项目与初创企业合作。Cyber Accelerator 旨在引领企业渡过最初的几个月，CyberInvest 是一个由行业、政府和学术界组成的专属社团，旨在加强英国大学对网络安全进行的研究。

## **How the UK is driving innovation and technology across the world**

### **英国推动全球创新和技术的方式**

The UK is the place where technology becomes tangible, because some of the world's best minds are collaborating and forging partnerships to find solutions to real-world issues through cutting-edge technologies.

英国是一个能让技术变得看得见摸得着的地方，因为这里聚集了一些世界上最优秀的人才，他们通力合作，通过前沿技术找到了解决现实世界问题的方法。



Using innovations like AI, the Internet of Things, big data and blockchain, UK businesses and enterprises are improving life for everybody, around the world. And the support and investment available to businesses in the UK is powering progress across a number of notable innovations.

利用人工智能、物联网、大数据和区块链等创新技术，英国企业正在逐步改善世界各地人民的生活。英国企业可获得的支持和投资正在推动多项重大创新的发展。

The UK has long been a major player in the development of AI and its industry is benefitting from substantial investment. The government has put a £1 billion funding package, backed by 50 leading businesses and organisations, into AI to turn world-leading research from the UK into a major export. £300 million of government funding has also been made available for AI research, to create 1,000 specialist PhDs and train 8,000 computer science teachers by 2025.

长期以来，英国一直是人工智能发展的主要参与者，该行业正得益于大量投资。在 50 家领先企业和组织的支持下，英国政府在人工智能领域投入了 10 亿英镑，将来自英国的世界领先研究成果转化为主要出口产品。此外，英国政府还在人工智能领域另外投入了 3 亿英镑，以期到 2025 年能培养出 1000 名专家博士和 8000 名计算机科学教师。

Other technologies being harnessed and developed include connected devices, also known as the Internet of Things, big data, which increasingly drives innovation from fintechs to cyber security, and blockchain. Created to facilitate crypto-currencies, blockchain is now being used for everything from shipping, to supply chains, to finance.

其他正在利用和开发的技术包括互联设备——也称为物联网、大数据。它越来越多地推动从金融科技到网络安全，再到区块链的创新。区块链是为了方便加密货币而创建，但它现在却正被用于从航运到供应链再到金融财务的各个方面。

The power of these technologies is being unleashed by businesses to create transformative change holistically. Through technology and on a worldwide scale the UK is fostering knowledge, powering sustainable futures, driving large-scale innovation, pioneering research and development around evolving technologies and providing essential services.

这些技术的力量正通过企业释放出来，以全面打造革命性的变革。英国正通过技术在全世界范围内培育知识，推动可持续发展的未来，推进大规模创新，围绕不断发展的技术进行开拓性的研究和开发，并提供必要的基础服务。

## **Edtech: Bringing education to all**

### **教育科技：普及教育**

The UK has a strong history of involvement in educational technology, home to more than a thousand Edtech start-ups and established global business such as TES Global, who support teachers and schools worldwide with its professional collaboration and talent network, made up of over 11.6 million professionals. The UK has long recognised the potential for using technology in education and has been at the core of this, as seen with The Bett Show. Bett showcases the latest edtech start-ups, bringing together leading companies to collaborate, share new developments, inspire and drive forward the future of education, through its global community.

英国在教育技术领域有着悠久的历史，拥有 1000 多家教育科技初创企业，以及像 TES Global 这样的老牌全球企业。TES Global 拥有超过 1160 万名专业人士，通过专业合作和人才网络，为全球的教师和学校提供支持。正如英国教育技术展览会 Bett Show 所展示的那样，英国早就认识到在教育中使用技术的潜力，并一直以此为核心。Bett 展示了最新的教育科技初创企业，通过其全球社区，将领先企业汇聚在一起，进行合作，分享新发展，激励并推动教育的未来发展。

One leading edtech innovator is Raspberry Pi, whose mission is to put the power of computing and digital making into the hands of people all over the world. They provide tiny, low-cost, high performance computers that people across the world can use to learn, solve problems and have fun. A charitable foundation, their programme of outreach helps more people access technology. Free resources help people learn about computing as well as train educators, who can guide other people to learn. The third successful tech company of Dr. Eben Upton, a Cambridge University Computer Scientist, Raspberry Pi celebrates it's 10 anniversary this year and has sold 19 million Raspberry Pi computers.

Raspberry Pi 是一个领先的教育科技创新企业，该企业成立的宗旨是将计算与数字制作的力量交到全世界人民的手中。他们提供了一种小型、低成本、高性能的计算机，全世界的人都可以通过这些计算机学习、解决问题和自娱自乐。作为一个慈善基金会，他们的推广计划帮助更多的人接触到了技术。

Raspberry Pi 不仅提供免费资源帮助人们学习计算机，而且还免费培训教师，以便这些教师可以指导他人学习。作为剑桥大学计算机科学家艾本·厄普顿博士的第三家成功科技公司，今年 Raspberry Pi 举办了其成立 10 周年庆典，他们已经销售了 1900 万台 Raspberry Pi 计算机。

Institutions like the BBC and Open University have pioneered online learning, and the proliferation of English as a language around the world puts English language courses in very high demand.

英国广播公司和英国公开大学等机构开创了在线学习的先河，而英语在世界各地的普及，使得对英文教学课程的需求量非常大。

To respond to this, the UK has been at the forefront of initiatives like FutureLearn, a platform owned by the Open University that houses a range of online short courses to degrees from leading educational and cultural institutions around the world. These courses can be taken for free, by anybody, at any time using a computer, mobile phone or tablet. In the last three years, the Open University has invested £13 million in the platform. As a result, FutureLearn is transforming how students learn and is bringing access to education to the world, through its fundamental belief that learning should be an enjoyable experience and open to all. Spanning the private, public and third sectors, it brings together the best educators from the world's top universities and institutions to share their knowledge and experience. With endorsement by internationally renowned organisations, from professional bodies such as the Association of Chartered Accountants to businesses like Marks & Spencer and the UK government.

为了应对这一需求，英国一直走在“未来学习”（FutureLearn）等项目的前沿。“未来学习”是英国公开大学旗下的一个平台，提供从全球领先教育文化机构获得的一系列在线短期课程和学位课程。任何人都可通过电脑、手机或平板电脑随时免费学习这些课程。在过去的三年里，英国公开大学在这个平台总投资了 1300 万英镑。因此，“未来学习”正在改变学生的学习方式，并通过其基本信念——学习应该是一种愉快的体验并向所有人开放，将受教育的机会带给全世界。它跨越了私立、公立和第三部门，汇集了来自世界顶尖大学和机构的最优秀教育工作者，分享他们的知识和经验。这个平台还获得了国际知名组织的认可，包括英国特许会计师协会等专业机构，和玛莎百货等企业，以及英国政府。

The FutureLearn platform celebrated five years and 7.5 million users across more than 230 countries in 2018. The platform has more than 155 partners, 95 of which are leading universities around the world.

It includes partnerships in South Korea with the Universities of Yonsei and Sungkyunkwan, as well as Hanyang University and Keio University in Japan, University of Malaya, Shanghai International Studies University (SISU), Shanghai Jiao Tong University, and National Chiao Tung University in China. It also has a significant number of partnerships with universities in Australia, including the Universities of Melbourne and Wollongong, Griffith, Monash, Murdoch, RMIT and Deakin Universities, Queensland University of Technology Australia, Universities of New South Wales Sydney and Canberra and the Universities of Auckland and Waikato in New Zealand. Through a partnership with the University of Newcastle, Australia will see a three-year arts degree begin in February 2019.

2018年，“未来学习”平台已走过五个年头，它在230多个国家拥有750万用户。该平台拥有超过155个合作伙伴，其中95个是世界领先的大学，包括韩国延世大学和成均馆大学、汉阳大学和日本的庆应大学、马来亚大学以及中国大陆的上海外国语大学、上海交通大学和中国台湾的国立交通大学等。它还与澳大利亚的许多大学建立了合作伙伴关系，其中包括墨尔本大学、卧龙岗大学、格里菲斯大学、莫纳什大学、莫多克大学、墨尔本皇家理工大学、迪肯大学、昆士兰科技大学、悉尼新南威尔士大学、堪培拉大学，还有新西兰的奥克兰大学和怀卡托大学。通过与纽卡斯尔大学的合作，澳大利亚将于2019年2月开始实施学习三年即可获取文学学士学位的制度。

The platform also underpins a £40 million project from the Institute of Coding, along with the Open University and £20 million of funding from the UK government, to teach teenagers cyber security skills. Thanks to UK investment in Edtech a new generation of digital natives, individuals who have grown up with access to the internet and whose lives have always involved a degree of connectivity, are now becoming the coding specialists of the future, set to grow industries around the world.

该平台还支持了编程研究所和英国公开大学设立的一个价值4000万英镑的项目，还从英国政府获得了2000万英镑的资金，旨在教授青少年网络安全技能。当代青少年们在互联网的环境中长大，生活中一直都有一定程度的连通性。得益于英国对教育科技的投资，新一代的数字原生代正在成为未来的编程专家，并将在全球范围内推动各个行业的成长。

## **Sustainable futures: Autonomous cars**

### **可持续未来：自动驾驶汽车**

The UK government is investing heavily in autonomous cars, including proposals for codes of practice relating to insurance law for the testing driverless vehicles, and trials being carried out across the country. It is thought the industry in the UK will be worth up to £52 billion by 2035, and a target has been set for autonomous cars to be in commercial use by 2021.

英国政府正在大力投资自动驾驶汽车，包括为测试无人驾驶汽车制定保险法相关的业务守则，以及在全国各地进行的试验。普遍认为，到2035年，英国的汽车工业价值将高达520亿英镑，还制定了到2021年自动驾驶汽车投入商业使用的目标。

At the end of 2018 a new cyber security standard was published to set a benchmark for the industry and ensure autonomous car manufacturers can demonstrate that their systems are resilient to attacks and will respond appropriately if defences fail.

在2018年底，英国发布了一项新的网络安全标准，为汽车行业设定了一个基准，确保自动驾驶汽车制造商能够证明他们的系统能够灵活应对网络攻击，并在防御失败时做出适当回应。

Thanks to the favourable conditions for businesses, including the lowest corporation tax in the G20 and forward-thinking regulatory system, international businesses are increasingly choosing the UK for their innovation and development.

由于种种对企业有利的条件，包括在G20国家中最低的企业税以及具备前瞻性的监管体系，越来越多的国际企业选择在英国进行创新和发展。

Westfield Technology Group is the UK's leading autonomous cars provider. Based in Kingswinford in the West Midlands, the company's POD, its first fully autonomous vehicle, has completed more than 5 million kilometres in a live commercial environment at Heathrow Airport. Its vehicles have been showcased, trialled and tested all over the world including in Australia and South Korea as well as across Europe and Asia.

Westfield Technology Group 是英国领先的自动驾驶汽车供应商。总部位于西米德兰兹郡的 Kingswinford，该公司的 POD 是其首款全自动汽车，已经在希思罗机场的实况商业环境中行驶了500多万公里。该公司的汽车已经在世界各地展出、试行并进行了测试，其中包括澳大利亚、韩国以及欧洲和亚洲。

Meanwhile the University of Oxford's Oxbotica is creating hardware for trials around the UK. These include working with online shopping hub Ocado to create an autonomous shopping delivery system, which was trialled in Greenwich in London.

与此同时，牛津大学的 Oxbotica 公司正在为英国各地的试行开发硬件。其中包括与网上购物中心 Ocado 合作，以创建一个自动购物配送系统，该系统已在伦敦的格林威治进行过试用。

Oxbotica also has nearly £9 million in funding to create a large-scale driving demonstration along the UK's motorways between Oxford and London.

Oxbotica 公司还拥有近900万英镑的资金，用于在牛津和伦敦之间的英国高速公路上进行大范围的驾驶示范。

Elsewhere across UK, there are autonomous vehicle tests being carried out in Milton Keynes, Bristol, Coventry and Nuneaton by companies including Jaguar Land Rover, Ford, Nissan and Tata Motors.

在英国其它地方，包括捷豹路虎、福特、日产和塔塔汽车在内的公司正在米尔顿凯恩斯、布里斯托、考文垂和纽尼顿进行自动车辆测试。

Within the autonomous and connected vehicle market are start-ups like Envisics, a dynamic holography platform using light, speed and direction that is transforming automotive head-up displays (HUD). These devices reduce dangerous distractions by displaying key information, such as a car's speed and navigation directions, directly in the driver's line of sight, using augmented reality imagery. These automotive HUD developments spearheaded by Envisics, are making roads safer, consuming 50% less power and can be personalised to specific models.

在自动和互联汽车市场中，像 **Envisics** 这样的初创企业正在兴起。**Envisics** 是一个动态全息成像平台，利用光、速度和方向来改变汽车平视显示（HUD）。这些设备通过使用增强现实图像，直接在驾驶员视线中显示汽车的速度和导航方向等关键信息，减少危险干扰。这些由 **Envisics** 引领的汽车平视显示（HUD）的开发进展使得道路更加安全，也使耗电量减少了50%，并且可以根据具体车型进行个性化设置。

## Large-scale innovation: Bristol – the UK's Leading Smart City

### 大规模创新：布里斯托——英国领先的智能城市

Bristol is the UK's number one smart city, according to rankings from Huawei. At the GSMA's Global Mobile Awards, it beat the likes of Barcelona, Dubai, New York, Singapore and Yinchuan to win the Smart City Award (Judges' Choice). The city was chosen thanks to its initiatives including Bristol Is Open, a joint venture between the University of Bristol and Bristol City Council. It is funded by local, national and European governments, academic institutions and the private sector, this partnership delivers research and development initiatives that contribute to a smart city.

根据华为的排名，布里斯托是英国第一大智能城市。在全球移动通信协会公布的全球移动奖上，它击败了巴塞罗那、迪拜、纽约、新加坡和银川等城市，赢得了智能城市奖（评委的选择）。这座城市之所以被选中，正是凭借于它实施的多项方案，其中包括**Bristol Is Open**计划（这是布里斯托大学和布里斯托市议会联合进行的合资项目）。该计划得到了地方、国家、欧洲政府、学术机构和私营部门的资助，这一伙伴关系提供了有助于建设智慧城市的研究和开发方案。

Using small sensors, included in the smartphones and GPS devices of participants, three new fast networks in Bristol city centre have been established, giving constant information about aspects of city life including energy, air quality and traffic flow.

布里斯托市中心建立了三个全新的快速网络，利用参与者的智能手机和GPS设备中的小型传感器，不断提供城市生活方面的信息，包括能源、空气质量和交通流量。

The networks are integrated through software controls; fibre in the ground, a wireless HetNet and a radio frequency mesh network, which has been deployed on 2,000 of the city's lampposts. A city operating system dynamically hosts the communications and data.

这些网络通过软件控制集成；光纤铺设在地面，无线网络HetNet和射频网状网络已经部署在该市2000个灯柱上。城市操作系统动态地承载通信和数据。

Companies of all sizes can come and test new technology in a real-world environment and Bristol has attracted a wealth of local companies and start-ups as well as international investment.

各类规模的公司都可以来这里，在真实世界环境中测试新技术。布里斯托吸引了很多本地公司、初创企业以及国际投资。

Cookpad, the largest recipe sharing platform in the world, has been flourishing in Japan since 1997 and has chosen Bristol as its new global headquarters because of the world-class technology on offer alongside its arts, culture and food credentials.

Cookpad是全球最大的菜谱分享平台，自1997年以来在日本蓬勃发展。其选择布里斯托作为新的全球总部，因为除了具有一流的艺术、文化和美食之外，这里还具备世界一流的技术。

Nokia has been influential in Bristol for the past decade, having bought billing software developer Apertio in 2008 and established strong connections with the University of Bristol as well as joining Bristol is Open.

过去10年，诺基亚在布里斯托一直很有影响力。2008年，诺基亚收购了计费软件开发商Apertio，并与布里斯托大学建立了牢固的联系并加盟Bristol is Open。

Toshiba also has an R&D centre in the area and is collaborating with causes including IceWater, which aims to increase the stability of water supply by adjusting supply to actual consumption through smart-grid integration and water spillage through leak detection.

东芝在该地区也设有一个研发中心，并正在与包括IceWater在内的公司合作，旨在通过智能电网集成调整供水与实际用水量，并通过泄漏检测检查溢水，从而增强供水稳定性。

Other projects focus on finding new approaches to wireless networking to improve energy efficiencies.

其他项目侧重于寻找新的无线网络方法以提高能源效率。

Ordnance Survey is using its data and unique perspective as leading map developers to play a key role in smart city projects both in the UK and further afield. The company, a heritage UK brand, has been very involved with the Hong Kong government's initiatives around smart city development.

作为领先的地图开发商，Ordnance Survey正利用其数据和独特视角，在英国乃至更远地区的智能城市项目中发挥关键作用。该公司是英国传统品牌，一直积极参与香港特区政府的智慧城市发展计划。

## **Pioneering evolving technologies: Big Data**

### **领先革新技术：大数据**

London is currently the data capital of Europe, and the UK has the largest data centre market with more than 24% of the EU total, which is growing at more than 8% annually.

伦敦是目前欧洲的数据中心，英国拥有欧洲最大的数据中心市场，占欧盟数据中心市场的24%以上，年增长率超过8%。

Around 31,000 people work in specialist big data roles in the UK and that figure is set to increase by 243% over the next five years.

在英国，大约有3.1万人从事专业的大数据工作，这一数字在未来五年将增长243%。

Edinburgh is in hot pursuit, and last year unveiled a £650 million plan to provide data skills training to 100,000 people through Edinburgh and Heriot-Watt universities. Schools across the region will be provided with digital skills teaching and training as part of the initiative, and Edinburgh's supercomputer capabilities strengthened with investment in a data analysis facility to help 1,000 organisations innovate with data in their sectors.

爱丁堡紧随其后，于去年公布了6.5亿英镑的计划，依托爱丁堡大学和赫瑞瓦特大学为10万人提供数据技能培训。作为该计划的一部分，该地区的学校将提供数字技能教学和培训课程。爱丁堡的超级计算机能力得到了增强，爱丁堡将投资建设一套数据分析设施，帮助1000家机构在各自领域进行数据创新。

Overall UK organisations spend on average £2.6 million on data initiatives, balanced between people and technology. A total of 80% of UK businesses will be looking to hire a data scientist this year, and UK companies plan to increase their average spending on advanced analytics by 26% to £24 billion by 2020.

英国各个机构在数据创新领域的投入总数约260万英镑，资金走向分别在人才与技术之间保持平衡。今年，80%的英国企业将计划招聘一名数据学家，英国公司计划到2020年，将他们的高级分析平均支出增加26%，至240亿英镑。

The UK has one of the strongest and most developed data analytics sectors in the world, with growth of 117% expected over the next five years and with established support from the government. The demand in big data users is set to rise to around 644,000, across all industries.

英国拥有世界上最强大、最发达的数据分析部门之一。在政府的既有支持下，英国的数据分析行业未来5年预计将增长117%。各行各业对大数据用户的需求预计将升至64.4万左右。

Universities across the country including Goldsmiths in London and the universities of Edinburgh and Sheffield offer degrees in big data analytics, with others around the UK offering courses in data science, artificial intelligence and visualisation.

英国各地的大学，包括伦敦大学金史密斯学院、爱丁堡大学和谢菲尔德大学，均设有大数据分析学位，英国其他大学也设有数据科学、人工智能和可视化课程。

Within the UK there are more than 30 programmes offering investment support to new data analytics companies. A £42 million institute for data science based at the British Library, the Alan Turing Institute, brings together 13 of the top universities from across the UK along with industry, public sector and third sector partners to tackle some of the biggest scientific, economic and social challenges through data science and artificial intelligence research. The institute is working with three major Japanese research institutes as part of a series of new scientific collaborations between the two countries in the fields of robotics, ethical use of data and medical research.

英国有30多个项目为新数据分析公司提供资金支持。大英图书馆的阿兰·图灵研究所（the Alan Turing Institute）是一家耗资4200万英镑建立的数据科学研究所，这里云集了英国13所顶尖大学、工业界、公共部门和第三部门的合作伙伴，旨在通过数据科学和人工智能研究，解决一些重量级的科学、经济和社会挑战。作为两国在机器人技术、数据的伦理使用和医学研究领域一系列新科学合作的一部分，该研究所正与日本三大研究机构合作。

## **Essential services: Cyber Security**

### **基本服务：网络安全**

As technology develops and the world is increasingly connected, so too the need for security increases. Last year the UK government announced plans to invest £1.9 billion in cyber security, with a vision to make the country secure and resistant to cyber threats by 2021, while maintaining prosperity and confidence in the digital world.

随着科技的发展和世界联系的日益紧密，对安全的需求也在增加。去年，英国政府宣布计划在网络安全方面投资19亿英镑，其目标是到2021年让国家变得安全并能灵活应对网络威胁，确保网络安全无虞的同时，保持数字世界的繁荣和自信。

The investment will be poured into developing critical capabilities to build skills, support growth and stimulate science and technology. The world-class cyber arm of GCHQ, the National Cyber Security Centre was created in 2016 and has to date prevented more than 54 million malicious emails being sent.

这些投资将用于开发关键能力，以培养技能、支持增长和刺激科技进步。作为英国政府通信总部（GCHQ）的世界级网络部门，英国国家网络安全中心成立于2016年，迄今为止已阻止了5400多万封恶意电子邮件的发送。

A 2017 cyber-attack, WannaCry, was the biggest and most disruptive in history affecting around 200,000 computers across 150 countries. It was managed in the UK thanks to Darktrace, a cyber security innovator. The company creates technology that mimics the human immune system when it comes to modelling and responding to cyber security threats. AI and machine learning are used to understand the normal patterns and behaviours of users and devices. When abnormal activity is detected, analysis technology is used to understand the threat and respond accordingly, in the form of a digital antibody similar to the human immune system.

WannaCry 这一2017年的网络攻击是有史以来最大和最具破坏性的勒索病毒，它影响到150个国家约20万台电脑的。多亏了网络安全创新公司Darktrace，该病毒在英国得到了控制。在建模和应对网络安全威胁方面，该公司创造了一种模仿人类免疫系统的技术。人工智能和机器学习被用于了解用户和设备的正常模式和行为。当检测到异常活动时，利用分析技术了解威胁并作出相应反应，其形式是一种类似于人类免疫系统的数字抗体。

In 2018 the City of London Police launched Cyber Griffin, an initiative that supports business and individuals based in the Square Mile (the financial district) of London. It teaches individuals and global companies how to protect themselves online.

2018年，伦敦警方推出了Cyber Griffin，这项计划旨在为在伦敦Square Mile（金融区）的公司和个人提供支持。它教个人和全球公司如何在网上保护自己。

Not all cyber security innovators are start-ups, British Telecom (BT) is now a major player in the security services space and has integrated systems from Darktrace as well as acquiring a security start-up in 2006.

并非所有的网络安全创新者都是初创企业，英国电信（BT）目前是安全服务领域的主要参与者，它整合了DarkTrace的系统，并在2006年收购了一家安全初创企业。

## **The UK: Asia's Partner for Technology**

### **英国：亚洲的科技合作伙伴**

UK businesses already have a strong history of working hand-in-hand with those in APAC to deliver technology that is changing lives every day. Westfield Technology Group, for example, are involved in [South Korea's £30 million project](#) to bring autonomous electric pods (known as self-driving vehicles) to North Gyeongsang. The UK company will help deliver five pods as part of an initial trial.

英国企业已经拥有与亚太地区企业携手合作、提供每天都在改变人们生活的技术的悠久历史。例如，Westfield Technology Group 参与了[韩国一项价值 3000 万英镑的项目](#)，将把自动电动吊舱（被称为自动驾驶车辆）带到韩国的庆尚北道。作为初步试验的一部分，这家英国公司将帮助提供 5 个吊舱。



Ordnance Survey is also working with the Hong Kong government's Land Department, to apply its credentials in mapping to the modern world of smart cities – a move which has also seen the company set up office in Hong Kong, further reflecting the global expansion of an innovation born and bred in the UK.

Ordnance Survey 也与香港特区政府的地政总署合作，将其测绘资质应用于构建现代智能城市。该公司还在香港设立了办事处，此举进一步反映了一项在英国土生土长的创新在全球的扩张。

Similarly, Darktrace, a UK founded world leader in AI-based cyber security now has its Hub in Singapore as an Asia Pacific base, but also has a local footprint in Hong Kong where it enjoys a strategic partnership with CITIC Telecom CPC to bring the next generation cyber defence systems to partners across Asia Pacific – a region which has now become a global epicentre of the business.

在基于人工智能的网络安全领域处于全球领先地位的英国公司 Darktrace，如今在新加坡设立运营中心，作为亚太地区的一个基地。不仅如此，该公司在香港也拥有本土业务，与中信国际电信(CITIC Telecom CPC)建立了战略合作伙伴关系，将下一代网络防御系统带给遍及亚太地区的合作伙伴——该地区目前已成为该业务的全球中心。

Meanwhile, Moixa, a UK energy management start-up will be instrumental in helping Japan achieve its strategy of all homes meeting net-zero energy standards by 2020. Its GridShare AI-based platform was rolled out to over 3,500 batteries in Japanese homes in late 2018 – one of the world's largest cluster of managed batteries. This roll out took place in partnership with ITOCHU, who deployed its SmartStar Energy Storage System hardware to customers – providing backup services in case of power cuts or disaster scenarios.

与此同时，英国能源管理初创企业 Moixa 将在帮助日本实现其到 2020 年所有家庭达到净零能源标准的战略方面发挥重要作用。作为全球最大的托管电池集群之一，该公司在 2018 年底对在日本家庭中的超过 3500 块电池推出基于人工智能的 GridShare 平台。这项计划与伊藤忠商事株式会社合作进行，伊藤忠商事株式会社向客户部署了其智能星 (SmartStar) 储能系统硬件——在停电或灾难情况下提供备份服务。

The precedent is there – and the UK is waiting for its next opportunity to partner with Asia Pacific businesses. The UK is a truly global destination: in London alone, the diversity of the population means that over 230 languages are spoken every day. As the top destination in Europe for foreign direct investment and the fifth biggest economy in the world, the future is bright for the UK - and the businesses that have invested in the country.

继往开来，英国正在等待与亚太地区企业合作的下一个机会。英国是一个真正的全球目的地：仅在伦敦，人口的多样性就意味着每天有超过 230 种语言被使用。作为欧洲的外国直接投资的首选目的地和世界第五大经济体，英国及在该国投资的企业未来拥有无限光明的前景。

## **END OF SECTION**

本节结束

## **SECTION THREE:**

第三节：

## **Impact Without Borders: UK Technology and Social Challenges**

### **影响无国界：英国科技与社会挑战**

New technologies, innovations, research and development in the UK and further afield are collectively changing not just sectors and industries, but also finding solutions to the wider social concerns shared the world over.

英国及其外围的新科技、创新和研发不仅共同改变了行业和产业，同时还为全世界共同关心的广泛社会问题寻找解决方案。

Challenges such as ageing populations, access to education and youth empowerment, movement between countries in an increasingly borderless world, gender equality and accessibility are all being addressed in new and different ways, through technology.

科技正通过新颖且不同的方式的应对诸如人口老龄化、享受教育、青少年增权、在日益无国界的国与国之间的流动、性别平等和可及性等方面的挑战。

The future of the planet may rest on technological innovation. Addressing climate change has become a key policy focus alongside delivering measurable sustainability objectives.

地球的未来仰仗于科技创新。在实现可衡量的可持续发展目标的同时，应对气候变化已成为一个关键的政策重点。

The technology being developed and pioneered in the UK has a leading role to play in all these issues.

英国正在开发和率先使用的科技在所有这些问题上都可以发挥主导作用。

## **Sustainability and Climate Change**

### **可持续性**与气候变化

From food production and consumption, to reducing emissions, smart route planning and cleantech, technology can be harnessed to transform the impact of working practices and our daily lives.

从食物生产及消费，到减少排放、智能路线规划和清洁技术，科技正对为工作实践和我们日常生活所带来的影响施加变革之力。

Carbon neutrality is a genuine aim for many cities. In the UK, Bristol and Manchester are among the cities that have set goals of becoming carbon neutral by 2050. This can be achieved with a combination of technologies and initiatives as well as ongoing research and development for solutions to the most complex problems.

实现碳平衡是许多城市真正的目标。在英国，布里斯托和曼彻斯特等城市都制定了到 2050 年实现碳平衡的目标。这可以通过结合科技和方案以及为解决最复杂问题而进行的研究来实现。

For buildings, the solution is renewable sources of energy such as solar, generated in part by roof-top panels, fittings that consume little energy, such as LED lights, and energy-saving additions such as winter insulation.

对于建筑物来说，可行的解决方案是利用可再生能源，例如由部分能源屋顶板所产生的太阳能，使得能源消耗几乎很少。再比如 LED 灯及诸如冬季保温材料的能源附件。

Transport is one of the biggest sustainability issues, and technology will hold the key to solving the problem of keeping people moving while lowering harmful emissions. New fuel technology developed in the UK by CGON reduces emissions produced by traditional engines by 80%, and from 2040 the sale of petrol and diesel cars will be banned across the UK. Electric cars are set to replace petrol and diesel across the board and the UK is well placed to capitalise on this. Already the second largest market for electric vehicles in Europe the UK government is committed to developing the charging infrastructure with an additional £400 million funded programme. The UK is pioneering the development of world-leading batteries for electric vehicles through the Faraday Challenge – an initiative funded through the UK's Industrial Strategy.

可持续发展方案中最大的一个问题就是交通，而科技将是在减少有害气体排放的同时保证人们出行的关键。CGON 在英国开发的新燃料科技将传统发动机的排放量减少了 80%，英国将从 2040 年起禁止销售汽油和柴油汽车。电动汽车将全面取代汽油和柴油汽车，在这一领域，英国是实现商业收益的最佳目的地。英国已然是欧洲第二大的电动车市场，而英国政府已致力于实施一项额外 4 亿英镑的资助项目来发展充电基础设施。英国正通过法拉第挑战赛率先开发世界领先的电动车电池，这一计划的实施由英国工业发展战略（UK's Industrial Strategy）资助。

Additionally, the application of AI to wearable tech has made the population more health-conscious and as cities become safer, traffic more manageable and infrastructures upgraded cycling, walking and other forms of sustainable transport will all become more attractive alternatives. The evolution of electronic bicycles and booming UK e-bike market, from companies such as Raleigh and Volt, has opened up cycling to areas of the population for whom accessibility is more of a challenge.

此外，在可穿戴科技中应用 AI 使得人们的健康意识大为增强；随着城市变得更加安全，交通更易于管理及基础设施升级，骑自行车、步行和其他可持续交通方式都将变得更受欢迎。像 Raleigh 和 Volt 这样的公司助力电动自行车实现发展和演变，推动了英国电动自行车市场的蓬勃发展，而这种趋势也使得遍及交通不便地区的人们可以利用自行车出行。

Cleantech is an emerging tech subsector that will drive further innovations geared to reducing emissions and environmental damage. The UK cleantech market has an estimated value of £50 billion annually and employs nearly one million people.

清洁技术是一门新兴科技领域，将推动进一步创新，以减少排放和环境破坏。英国清洁技术市场每年估值达 500 亿英镑，雇员近 100 万人。

By 2021 the UK government will have invested £2.5 billion in low carbon innovation, and the National Investment Fund will have provided an additional £4.7 billion with an extra £2 billion a year by 2021.

到 2021 年，英国政府将在低碳创新领域投资 25 亿英镑，同时，国家投资基金会将再提供 47 亿英镑，至 2021 年每年再增加 20 亿英镑。

Support for cleantech innovation is being offered by organisations like Clean and Cool, which has introduced 75 of the UK's top cleantech start-ups to international investors and mentors. The systems are in place for the UK to become a global leader in cleantech, instrumental to creating a sustainable, efficient and low-carbon economy and with a positive uplift on job creation and economic growth.

目前，Clean、Cool 等机构支持清洁技术创新，并已向国际投资者和行业领袖介绍了 75 家英国顶级清洁技术初创企业。英国已采用此类系统，使得英国有望成为全球清洁技术的领导者，大大有助于打造可持续的高效低碳经济，并在创造就业机会和经济增长方面取得积极成果。

As a result, the green economy is booming. The UK's low carbon and renewable energy economy grew by 5% in the Office of National Statistics' latest figures, far outpacing the growth of the wider economy. Employment across the green economy also rose by more than 3%. Renewable energy is also leading to cost savings, with the UK getting more power for less money. Nearly 30% of the country's electricity was generated by clean sources in 2017 and the UK is expected to be at least 50% renewable by 2030, at a conservative estimate.

因此，绿色经济正蓬勃发展。英国国家统计局的最新数据表明，英国的低碳和可再生能源经济增长了 5%，远远超过整体经济的增长。整个绿色经济的就业人数也增长了 3% 以上。同时，可再生能源节省了成本，英国可以以更少的成本获取更多电力。在 2017 年，英国近 30% 的电力来自清洁能源，据保守估计，到 2030 年，英国预计使用可再生能源至少达 50%。

## **An Ageing Population**

### **人口老龄化**

Thanks to improvements in lifestyle, healthcare and access to information the population is living longer than ever before. The average life expectancy globally is now 72 years with an increase of 5.5 years in less than two decades. This brings new healthcare challenges, which include increasing healthiness and wellness in the overall population, preventative medicine and lifestyle changes, treatment for conditions and research into tackling those conditions associated with palliative care. Technology can also be used to address other issues associated with ageing, such as loneliness, which has been found to have a detrimental an effect on health as smoking 15 cigarettes a day.

由于生活方式，医疗保健和信息获取的改善，现如今人们的寿命是有史以来最长的。现在全球平均预期寿命为 72 岁，在不到 20 年的时间里增加了 5.5 岁。这对医疗保健带来了新的挑战，包括全体居民的健康水平的提高、预防医学专业水平的提高和人们生活方式的改变、治疗条件、缓和与治疗相关的治疗条件的研究。新科技也可用于解决与衰老相关的其他问题，例如孤独。据发现，孤独对健康的伤害不亚于每天吸 15 支香烟。

Smart homes have great potential to help older people live independently and safely in their own homes, with programming able to notice any changes in routine that might alert family or carers to a potential problem. This has potential to also reduce the cost of elder care.

智能家居具有很大的潜力，可以帮助老年人在自己家中独立安全地生活。此类智能家居软件能够发现任何反常的变化，从而提醒家人或护理人员注意潜在问题，并有望降低老年人护理成本。

Data generated through wearable technology and AI come together to help improve healthcare across the board, particularly in areas like complex decisions and treatment of diseases. Robotics have the potential to revolutionise prosthetics, with artificial limbs potentially able to sense and 'think' and interact directly with humans.

通过可穿戴技术和人工智能，将生成的数据汇集在一起，有助于全面改善状况，特别是改善在复杂决策和疾病治疗等领域的医疗保健水平。机器人科技有可能彻底改变假肢，使假肢能够感知和“思考”，并与人直接互动。

With an ageing population also comes an increase in palliative care, which is the provision of relief from symptoms, pain and the mental stress of terminal illness and marks a switch from medicine as cure, to medicine as life management. Here there is potential for technology to alleviate loneliness, through social media and voice-assisted technologies, and also a way for people to tell their stories and feel their lives have a fulfilling narrative with meaning and purpose.

随着人口老龄化，缓和治疗也会增加，这将缓解症状、疼痛和终末期疾病带来的精神压力，标志着从治疗医学向生命管理医学的转变。通过社交媒体和语音辅助科技，可减轻病人孤独感，这也是一种让人们讲述自身故事，感受生活意义和目的的治疗方式。

Overcoming loneliness and providing care is also a potential area for robotics. MiRo, a robot developed by a UK and Hong Kong based design engineer, is a programmable, autonomous and biometric robot that is designed to interact with humans like a pet but pick up on commands or recognise when something is wrong. At present most sales of the product have been to universities but long-term it could be harnessed to help care for the elderly or those with disabilities or mobility issues.

克服孤独和提供护理也是机器人科技的潜在领域。MiRo 是一个由英国和中国香港设计工程师开发的机器人，它是一种可编程的自主生物识别的机器人，旨在如宠物一样和人类互动，当出现问题时可接受指令或自主识别问题。目前，该产品的大部分销售对象是大学校园，但未来可用于帮助照顾老年人、残疾人或行动不便人士。

The UK medical technology sector is set up to answer these challenges and thriving, powered by a mixture of researchers, scientists, engineers, designers and National Health Service clinicians. Currently there are nearly 3,700 companies in the med tech sector, generating £21 billion and producing medical devices and diagnostics. Imagery, in vitro diagnostics and drug delivery are the fastest growing sectors by revenue, and digital health employs the most individuals, followed by drug delivery. Med tech and healthtech is supported by partners including the National Institute for Health and Care Excellence, the National Institute for Health Research, and Innovate UK.

以研究人员、科学家、工程师、设计师和国家卫生服务临床医生们为骨干的英国医疗科技业界正致力于应对这些挑战，迎接行业的蓬勃发展。目前，医疗科技领域有近 3700 家公司，生产医疗设备和诊断设备，创造 210 亿英镑的营收。图像、体外诊断和药物给药是收入增长最快的领域，数字医疗雇佣的人数最多，其次是药物给药。医疗科技和健康科技是由众多合作伙伴支持，包括国家医疗护理卓越机构、国家医疗研究机构和创新英国（Innovate UK）。

## **END OF SECTION**

本节结束

## **Conclusion**

### **结论**

Investment in technology is essential to drive progress and solve the world's challenges. The future relies on the innovation and creativity of thinking that characterises the tech sector, along with the willingness to try and test solutions. True disruption can only be achieved by bringing together data with creative thinking - two hallmarks of the UK's technology sector.

科技投资对于推动进步、解决世界面临的挑战至关重要。未来取决于科技行业独有的创新和创造性思维，以及尝试制定和测试解决方案的决心。只有将数据与创造性思维（英国科技行业的两大标志）结合起来，才能实现真正的创新。

Behind the headlines and the unicorns is a thriving culture of innovation, recognised as having the fewest barriers to entrepreneurship in the world.

层出不穷的头条新闻和不断涌现的独角兽公司体现出一种蓬勃发展的创新文化，这种文化使得企业家精神几乎不受任何阻碍地得以实践，凭借这样的优势，使得英国在世界上也独树一帜。

The power of thinking within world-leading universities and the willingness to collaborate, from government to industry to academia, is what sets the UK apart as a force for global innovation. A £200 million investment in a network of technology and innovation centres supports the commercialisation of new technologies, just one part of the UK's dynamic ecosystem that fosters collaboration, creates opportunities and nurtures growth.

世界一流大学的创新思维以及政府、行业、学术界的之间密切合作的愿景，促使英国在全球范围内脱颖而出，成为创新大国。英国对于科技和创新中心的投资达 2 亿英镑，促进新科技的商业化，而这只是英国培育合作、机会创造以及鼓励增长动态生态系统的一部分。

Innovation-friendly regulation, with dynamic policies that react to the fast-evolving tech landscape, combined with a mature private funding base and R&D focussed tax incentives continue to make it a top choice for global investment. The UK boasts the highest concentration of accelerators and incubators in Europe.

对创新十分友好的监管环境、适应快速发展科技环境的灵活政策，以及成熟的私人融资基础和以研发为重点的税收优惠，这些因素促使英国成为全球投资的首选国家。英国集中了欧洲最多的加速器和孵化器。

The favourable business conditions are enhanced by a modern industrial strategy with the vision and resources to keep business ahead of the curve, including a £950 million investment in the AI Sector Deal.

英国有着现代工业战略，秉持愿景和保有帮助企业领先一步的资源，包括一项对于人工智能领域的 9.5 亿英镑的投资。这样的战略进一步提升了有利的营商环境。

This is a country where technology is being harnessed to make previously unimaginable breakthroughs in industries from healthcare to manufacturing, agriculture to aviation. There is a wealth of data and learnings coming out of this innovation that can enhance businesses across a host of sectors around the world.

在英国，科技被用于在医疗保健、制造业、农业、航空等各行业，并进行着前所未有的创新。来自于这种创新的大量数据和经验也会促进全球众多行业的企业取得发展进步。

With sustained investment and inquiring minds, the UK is today one of the most exciting technology markets in the world. And it has the numbers to prove it: according to the [Tech Nation Report 2018](#), the UK digital tech sector now brings nearly £184 billion to the economy while turnover of digital technology companies has grown by 4.5% between 2016 and 2017; significantly higher than the 1.7% growth in UK GDP during the same period. Undoubtedly, this is why the UK continues to attract R&D investment from tech giants – including Google, Cisco, and Amazon.

在持续投资和探索中，英国目前是全球最瞩目的科技市场之一。下列数据可以证明这一点：根据 [《2018 年国家科技报告》](#)，目前英国数字科技行业对国民经济的贡献达近 1840 亿英镑，在 2016 年至 2017 年之间，数字科技公司的营业额增长了 4.5%，显著高于同期英国 GDP 的增幅（1.7%）。毫无疑问，这就是英国能够不断吸引谷歌、思科、亚马逊等科技巨头在英国进行研发投资的原因。

UK technology is already driving impact around the world. Developments in AI, healthtech and cleantech are being tested and adapted to the Asia-Pacific market, from UK-made autonomous cars being trialled in South Korea, to collaborations with UK universities and digital transformations. Huawei, Honor, OnePlus, Tencent and Xiaomi are among the Chinese firms coming to the UK to capitalise on the established technology ecosystem.

英国科技已经在世界各地产生影响。目前，在人工智能、健康科技和清洁科技领域的发展成果在亚太市场进行测试和调整，例如英国制造的自动驾驶汽车正在韩国试用，与英国大学合作以及数字转型。华为、荣耀、一加科技、腾讯和小米等中国企业来到英国投资，利用既有科技生态系统实现商业上的成功。

Greater collaboration between the Asia Pacific region and the UK is harnessing the power of investment, scale and innovation to drive change at pace.

亚太地区和英国的更广泛合作正助力投资、规模和创新等稳步驱动变革。

And whether as a partner, investor, start-up, or buyer– you can be sure that working with UK businesses will offer expert knowledge, innovative application, and flawless execution.

无论是合作伙伴、投资者、初创企业还是采购商都可以确信，与英国企业合作将为您提供专业的知识、创新的应用以及完善的执行服务。

## **END OF SECTION**

**本节结束**