Smart Cities

An introduction to the UK's market-leading expertise in developing innovative solutions for smart cities worldwide.

The Guangzhou International Finance Centre – designed in the UK by Wilkinson Eyre Architects – uses 20 percent less steel than similar skyscrapers. Photograph: Jonathan Leijonhufvud

The UK smart cities market

1

With over 80 percent of global GDP generated in cities, combined with a rapidly growing population and increased urbanisation, forecasts show that there will be 30 'mega cities' worldwide by 2020 and increasing demand for the concept of the 'smart city' as a way of providing a better quality of life and more sustainable living.

2

Smart city technologies use cross-sectoral solutions to address key urban challenges such as the optimal use of resources, increased energy efficiency, intelligent traffic management and the provision of more effective healthcare services.

3

The global market for smart city solutions, and the additional services required to deploy them, is forecast to be worth US$408 billion per annum by 2020.

4

UK smart city expertise is focused around the convergence and integration of healthcare, transport, education, energy, smart grids, the built environment and digital media.

5

The UK has particularly strong international expertise in smart city engineering consultancy, design and planning, with companies such as Arup, WS Atkins and Mott Macdonald at the forefront of global initiatives.

6

In healthcare, the UK is one of the fastest growing markets in Europe for 'assisted living treatment' and has global expertise in telehealth and telecare products and systems.

7

The UK Government is supporting cutting-edge research in key areas relating to smart city development including the 'Internet of Things', secure technologies, intelligent search, supercomputing, and systems modelling and analysis.

US$408bn

global market for smart cities in 2020

30 mega cities worldwide **by 2020**

Ultra advanced passenger transportation technologies at London Heathrow airport.

Glasgow, the UK's 'Future Cities Demonstrator'

Examples of key UK science and innovation infrastructure facilities

The **Future Cities Catapult** is a global centre of research excellence for urban innovation, focusing on addressing the challenges of urban integration by supporting cities to take a more joined up approach to the way that they plan and operate to improve quality of life, strengthen their economy and protect the environment. The centre identifies, develops and commercialises innovative technology solutions across various key sectors through collaborations with research institutes, universities and businesses. **futurecities.catapult.org.uk**

The **Connected Digital Economy Catapult** is a centre of research and innovation excellence for the digital economy, with a strong focus on creative media and content, digital health, digitally-enabled cities, next generation connectivity, digital market places and integration of data sets. **cde.catapult.org.uk**

Glasgow, Scotland was awarded £24m by the UK Government to show the benefits that can be delivered through city system integration by innovative use of the tools and techniques available 'off the shelf'.

The city will demonstrate how providing new integrated services across health, transport, energy and public safety can improve the local economy and increase quality of life. **futurecity.glasgow.gov.uk**

Innovate UK has supported smart city feasibility studies in 30 cities across the UK. **www.innovateuk.org**

The **Engineering and Physical Sciences Research Council** is investing £95 million on research projects directly relevant to the concept of smart cities. **www.epsrc.ac.uk**

The **Open Data Institute** is a non-profit organisation set up by Sir Tim Berners-Lee and Professor Nigel Shadbolt to promote the use of open data across all sectors and to help define global standards for open data. The Institute, which is based in Tech City, London, is funded through Innovate UK and works with both governmental organisations and the private sector. **www.theodi.org**

The **Intel Collaborative Research Institute for Sustainable Connected Cities** is based on two sites in London at University College London and Imperial

College London. **www.cities.io**

The **Digital Economy Lab at Imperial College London** provides wide-ranging research on harnessing next-generation digital systems to combine and repurpose city data in order to transform the planning and use of cities. **www3. imperial.ac.uk/digital-economy-lab/**

The **Whole System Demonstrator programme** was the largest randomised control trial of telehealth and telecare in the world and involved over 6,000 people across three sites in England and over 200 doctors' surgeries. The success of the programme led to two further projects being developed – the UK-wide 'DALLAS' (Delivering Assisted Living Lifestyles At Scale) programme and the '3millionlives' project. **www.telecare.org.uk/industry/ whole-system-demonstrator-project**

The **Energy Technologies Institute** supports research into innovative projects that accelerate the development of affordable, clean and secure technologies. **www.eti.co.uk/about**

Examples of innovative UK-based companies

Arup, the UK design and consulting engineering firm, is a global leader in the development and implementation of smart city solutions. **www.arup.com**

Wilkinson Eyre Architects is a UK design practice with international expertise in developing innovative and sustainable projects with strong environmental performance. **www.wilkinsoneyre.com**

Mott MacDonald is a diverse management, engineering and development consultancy with international expertise in smart city development. **www.mottmac.com**

GWD Media provides remote management software and systems to support the implementation of smart cities. **www.gwdmedia.com**

Ethos Smart is an innovative UK company that supplies various strategic and operation smart city implementation services. **www.ethossmart.com**

UK-owned **Atkins** is one of the world's leading design, engineering and project management consultancies and has strong expertise in major urban infrastructure projects, urban design and environmental projects. **www.atkinsglobal.co.uk**

Key innovation organisations

For further information about innovation opportunities in the UK smart cities sector please contact:

Future Cities Catapult
futurecities.catapult.org.uk

Connected Digital Economy Catapult **cde.catapult.org.uk**

Innovate UK
www.innovateuk.org

Engineering and Physical Sciences Research Council
www.epsrc.ac.uk

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