

Smart Cities

Time to
involve the
people?

An insight report from the Institution
of Engineering and Technology

Spring 2016



Overview

Research undertaken by the Institution of Engineering and Technology (IET) has found that, despite considerable investment by the UK government, local authorities and businesses, there is a basic lack of awareness among the British public about what a smart city is, does and its potential to improve citizens' quality of life.

Our findings suggest that while there has been some progress in making some of our cities smarter, there is much more to be done to involve the public. The danger is that smart cities may be developed without sufficient insight into what people actually want them to deliver.

What is a smart city?

A smart city uses modern digital communications technology to monitor, manage and enhance key infrastructure and public services. This can include transport and traffic management, energy, water and waste management, healthcare and other community services.

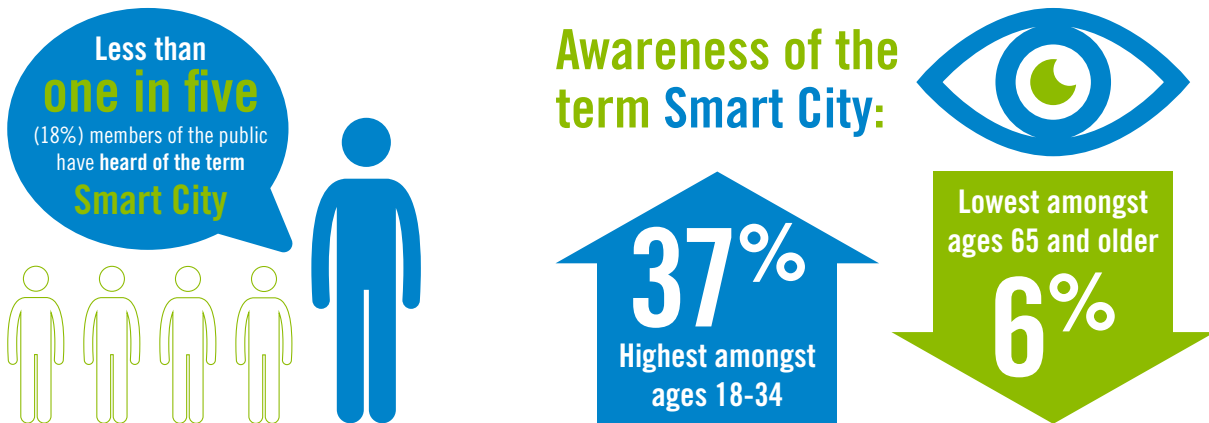
The goal of making existing UK cities smarter is to improve the experience for residents, workers and visitors alike, whilst at the same time reducing costs and resource consumption. Using technology can play an important part in tackling many of the challenges facing our cities.

Data from real-time systems and sensors can be an enabler to discovering what is happening in a city. It can help to identify opportunities and challenges which may improve the delivery and efficiency of services which meet the needs of the public.



Does the British public understand smart cities?

Our research suggests not. We surveyed 531 people drawn from a broadly nationally representative sample of the UK population and found:

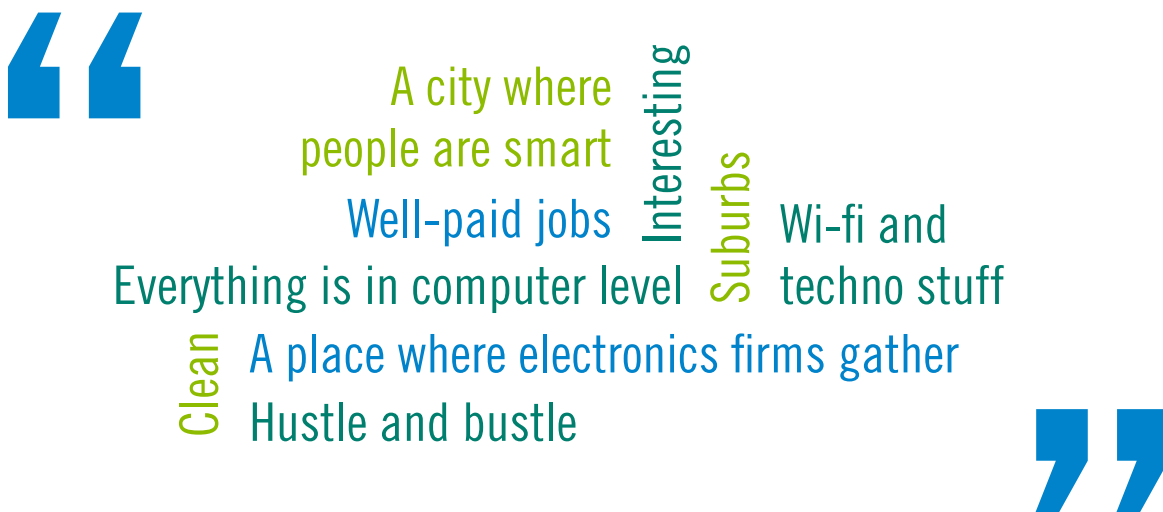


When asked to select a definition for a smart city from a list of options, one third are unable to do this accurately. Overall, 8% of respondents thought that a smart city was “a city that has a higher than average proportion of universities and colleges and aims to attract the most intellectual”. And a further 5% saw it as “a city that has a strict cleaning regime for its buildings, roads and public places”; over one fifth are simply unsure.

Our wordle below, *How would you describe a smart city?* highlights a clear lack of understanding amongst large parts of the UK demographic about what defines a smart city.

How would you describe a smart city?

Some of the responses from the people surveyed are as follows:



Source: IET survey, January 2016

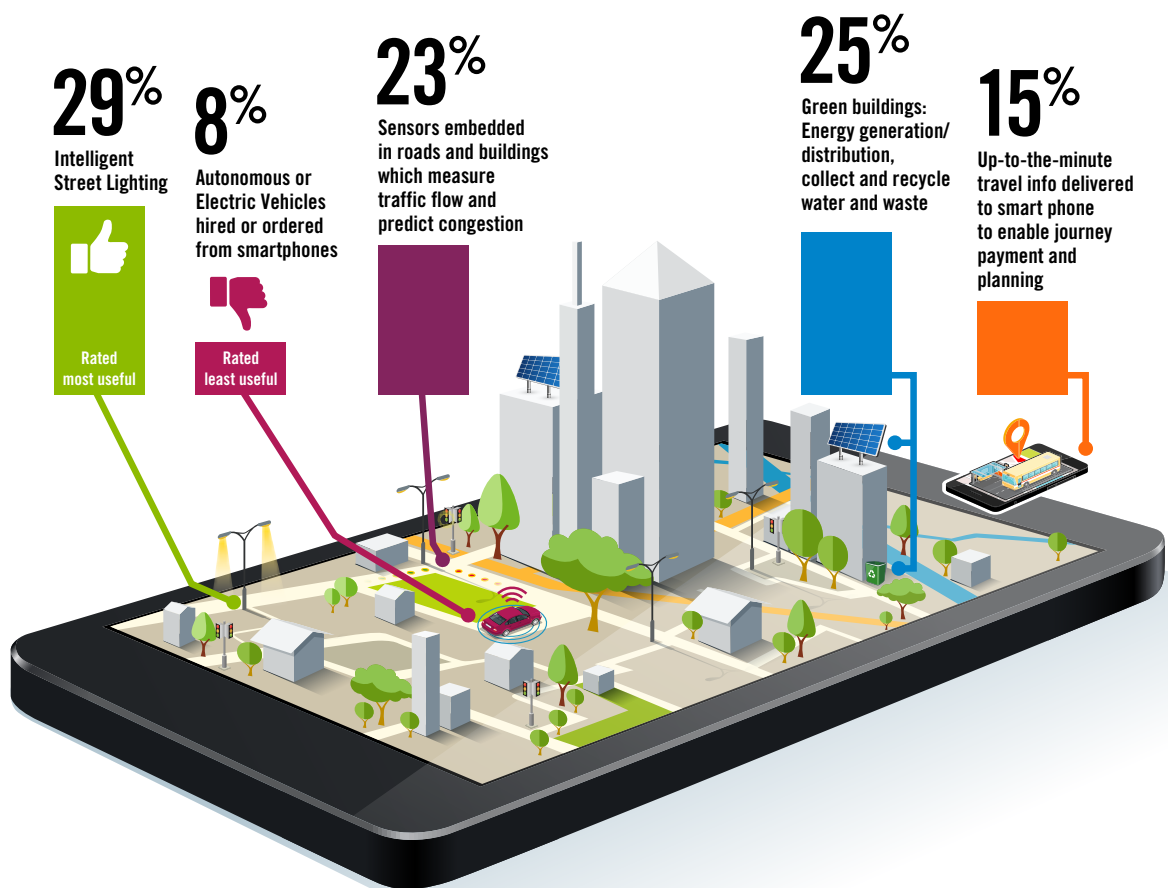
What do the British public want from a smart city?

We asked UK consumers for their views on five smart city technologies and how useful they might be if they were introduced in their local area. The results revealed a lack of any clear consensus.

Rated most useful, but by just 29% of respondents, are 'intelligent' streetlights which are activated by movement and automatically adjust to improve safety, deter crime and save energy. Least useful, and gaining just 8% of the vote, are driverless or electric cars and buses which can be hired or ordered from smart phones.

Home or office blocks which generate their own energy and give energy back to the electricity system – and buildings which collect and recycle water and waste (25%); sensors embedded in roads and buildings which measure traffic flows, predict congestion and adjust traffic lights and signals (23%); and up-to-the-minute travel information delivered to smart phones enabling people to plan and use many different types of transport and pay for complete journeys (15%) were the other innovations explored with the public.

Our research suggests that the British public currently places little value on these technologies and clearly the benefits need further explanation and promotion.



Citizen and community-centred approaches

The adoption of technologies within cities has traditionally been driven by a ‘top-down’ approach, with often little involvement from the public at the concept or design stage.

It’s unsurprising then that the evidence captured in this report suggests that the public has yet to buy into the idea of smart cities – and be convinced of the value and benefits that technology, delivered on a city-scale, could bring to their daily lives.

New disruptive technologies and applications such as Uber (on-demand taxi services) and airBNB (online accommodation service) may help to change hearts and minds. As these ‘bottom-up’ services become trusted by, and popular with, the public, the adoption and acceptance of smart city technologies may become easier.

Innovation for communities

The Government has actively promoted smart technologies in UK cities through a series of funded pilots. One example is the Future Cities Demonstrators. Held over a three-year period, projects in [Glasgow](#), [Peterborough](#), [Bristol](#) and London actively incorporated several citizen-centred applications and provided some excellent examples of how technology can improve the quality of life for residents, workers and visitors alike.

Glasgow’s Community Mapping project is a case in point. Engaging citizens, capturing invaluable insights and mapping their local communities, the project created an open and easy-to-use toolkit which is now being used by community groups to generate their own maps. The Glasgow Demonstrator also delivered a series of initiatives around community safety, intelligent street lighting, social transport and energy efficiency.



Data-driven innovation

Councils and other agencies generate masses of public data, much of this is useful, dynamic and worthy of wider exposure. A number of authorities have begun to publish and share information, online. A good example of such 'open data' is the Greater London Authority's [Datastore](#).

This approach is not only helping individuals, communities and SMEs to innovate; it is also helping some authorities to improve response to 'Freedom of Information' requests. Sharing more public data will help citizens to become more informed about their cities and communities.

Glasgow's Future Cities Demonstrator included an innovative [city data hub](#), which presently hosts over 370 datasets from 60 organisations involved in the City.

How should we respond?

The IET firmly believes that people, their needs and wishes, are an important consideration in taking our cities forward.

Putting people first, not technology, is absolutely essential if we are to improve quality of life and create liveable, connected and sustainable communities in which to live, work and invest.

We are therefore advocating three initiatives:

- 1. A UK-wide public engagement programme about the positive role technology can play in helping to improve UK cities and communities.**

Promoting 'lessons learned' from pilots such as the Future Cities Demonstrators will help to inspire, inform and influence more local authorities and communities as to how technologies can improve the quality of the daily lives of their citizens. This could be supported by industry providing help, support and guidance to make the take-up of the latest technologies as easy as possible for people.



2. The need for all those involved in developing and delivering technology-enabled cities to fully engage with citizens and communities.

Digital transformation is driving major changes to the way councils, public authorities and businesses shape and deliver their services to citizens and communities.

Embracing new ways of engaging the public will enable a more citizen and community-centred approach. Cities will need to ensure they have the skills and resources to harvest their data. Gaining a deeper understanding of how people want to live their lives will provide invaluable insight into how technology-enabled cities and communities can best serve the public.

Increased collaboration and a holistic, cross-sectoral, multi-disciplinary approach involving the full range of stakeholders is required. This includes city leaders, engineers and other professionals working together to 'listen to' and 'act on' the issues and innovations people wish to see embraced in their cities and communities. This will enable them to champion opportunities and provide the right solutions which benefit society.

3. Explore the changes required in the delivery, measurement and operation of new smart city services.

This requires greater emphasis on the outcomes people wish to see achieved and should help to foster a greater degree of joined up thinking and action across city silos (health, energy, transport etc.).



This short report is based on research commissioned by [The IET](https://www.theiet.org) and conducted by [Research By Design](https://www.researchbydesign.co.uk).

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