

Smart cities

The mobile devices we carry and the electronic systems that make up a city provide new and rich sources of data that can be used in the planning and policy-making of urban places

Real-time control

Sensors are now used in cities to control basic functions such as paying for services, intelligent lighting, more efficient energy. At the same time personal and mobile sensors in our smartphones are collecting data that help us make decisions about how we behave in real time.



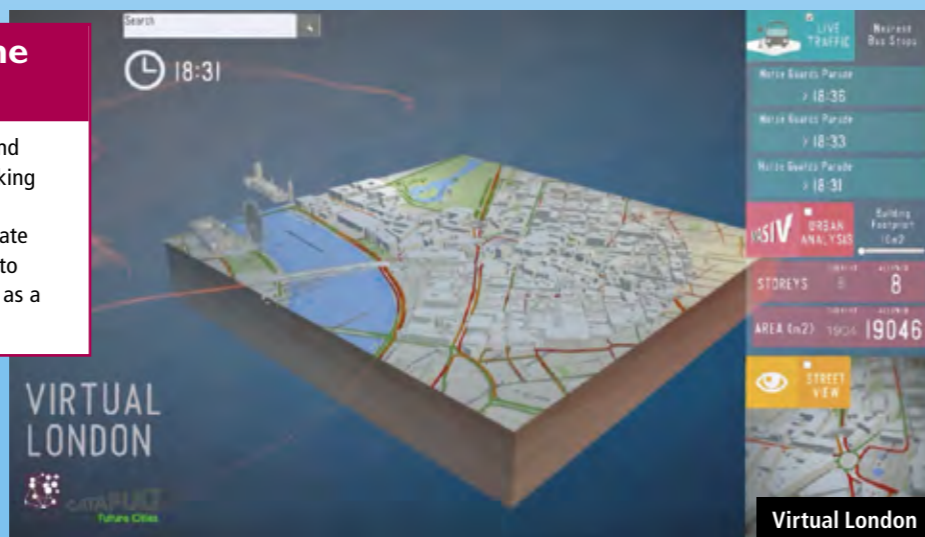
Real-time transport and weather data

What is a smart city?

Today computers are embedded into many of the elements that make up a city — its buildings, streets, cars and so on. In combination these generate ever bigger data about how a city functions and performs in real time. These data allow us to produce more efficient and liveable cities, which we call **smart**.

Mapping and modelling the three-dimensional city

Data from remote sensing, digital cartography and geographic information systems let us build working models of the buildings, streets, physiology and geography of the city. We are now able to generate three-dimensional digital models that enable us to coordinate information, displaying it in real time as a virtual city.



Virtual London

Automated travel, autonomous vehicles

Our cities are being automated with technologies that enable us to pay using smart cards such as London's Oyster Card, or to call up services such as Uber from our phones. Autonomous 'driverless' vehicles such as subway trains are already in operation. In the next decade, some of this technology will be used to help us drive better.



Map showing flow of tube trips

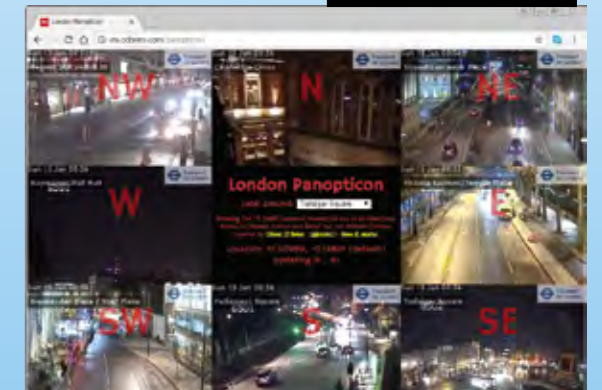
Using social media

Smartphones record our location, and when we post on social media. From these data, we can begin to extract social networks that give us a picture of how, where and with whom we communicate.



Tweetcity map

Real-time data display



City dashboards and control rooms

Dashboards collect real-time data from different sources, and display the information in a form that gives an instant and continuing picture of how well or badly a city is functioning. Some cities now have control rooms which allow them to spot problems as they emerge, and take immediate action to manage issues like traffic congestion.

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