



Cities of the Future – the Growing Technology

Smart cities are entering a new phase after a decade of experimentation. The digital solutions needed will ensure that everyone is fully connected for many years to come.

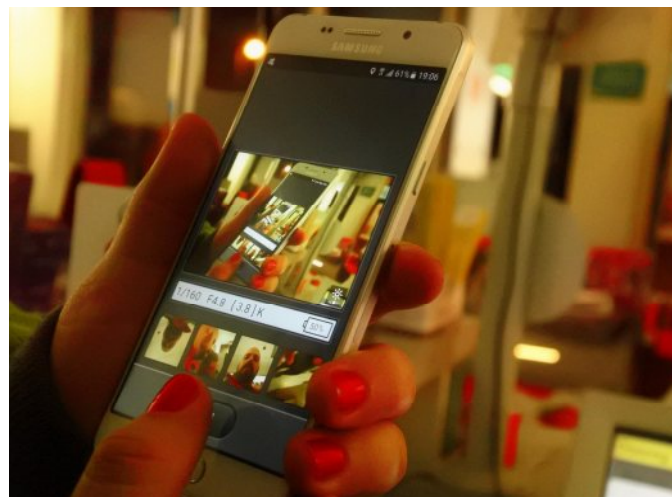
Rohit Talwar, Steve Wells and Alexandra Whittington, Fast Future

In the coming decades, the planet's most heavily concentrated populations will occupy city environments where a digital cocoon of sensors, devices and cloud connected data will be brought together to enhance the city living experience for all. In other words the city of the future will be smart.

Smart, in this context, encompasses the key elements that enable city ecosystems to function effectively – from traffic control and environmental protection to the management of energy, sanitation, healthcare, security, and buildings.

It is important that city governments create inclusive processes that inform citizens about the forces shaping the future and then engage them in dialogue about future cities we want to create.

Smart cities are designed to capture massive amounts of data about the population and its patterns – and to use this data to inform decisions. This is what is called “big data” and is essentially gathered via surveillance. It is collated from a constantly evolving and expanding Internet of Things (IoT) – encompassing traffic lights and cameras, pollution sensors, building control systems, and personal devices. The ability to process this vast quantity of data is becoming easier due to growth in the use of devices algorithms, AI, and predictive software. Essentially IOT means that everything – and potentially everyone – will become beacons and data collection devices.



For example, in the UK, where \$634 billion is earmarked for infrastructure over the next several years, drivers are already saving up to half an hour per day on the M62 smart motorway thanks to congestion management techniques such as dynamic signage, variable speed limits and peak period access to the hard shoulder.

In India a study suggests that light poles along the highways can offer both smart city and connectivity solutions; monitoring road conditions and providing high-speed data connections for travellers. South Korea for example, is planning an entire network





of smart roads by 2020, including battery-charging stations for electric vehicles (EVs) as well as infrastructure to handle autonomous vehicles.

It will be increasingly important that cities adopt the most innovative and forward-thinking design and sustainability ideas as they grow in size and importance to the global economy.

The data each city collects will enable us to make the best possible use of space, fuel, energy, water, electricity, and all resources, with an emphasis on sustainability.

Scientific forecasting tools will predict solar weather, helping the rollout of solar on smart roads and in homes. Eventually, with a growing array of such distributed power solutions, a centralized energy distribution grid for UK homes and businesses may not be necessary.

Smart cities have the potential to transform the organization of people and physical objects in a way that transcends urban development as we know it. The shift to smart infrastructure is not simply fashionable or aspirational; it appears to be a critical enabler of the future sustainability of cities.

As can be argued that the future of human life on Earth rests on a well thought through vision supported by citizens and smooth transition to cities that are more efficient, less wasteful.



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