Smart Cities:
An Introduction for Placemakers
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Research conducted by UN Habitat (World Urbanization Prospects, UN) in 2014 found that over 54 percent of the world's population lived in urban areas (cities) a proportion that is set to grow to over 66 percent in 2050. In the UK 80% of the population is already living in cities. In this era of rapid globalisation and economic downturn, cities face the challenge of maintaining already-constrained public services while developing in a resource-efficient way.

A Smart City is a place where the traditional networks and services of a city are made more effective through the use of digital & telecommunications technologies and the analysis of so-called 'big data'. Sources of big data include everyday appliances and applications such as Wi-Fi, smart phones and tablets. Smart City services are not restricted to any one sector but encompass everything from better water and waste management, more interactive and responsive city administration and more efficient public transport.

Revolutionary advances in technologies – such as driverless cars and the 'Internet of Things' (the ability of digital appliances to interact with each other) – are arriving at a much faster pace than had been expected. Local and national governments are trying to upgrade city infrastructure to benefit from what is now being dubbed the 4th Industrial revolution. Traffic lights can no longer be just traffic lights: they now need to be data centres that can interact with the many computers present in cars; traditional lamp columns need to be Wi-Fi routers or air quality monitors. It is estimated that the development of innovative Smart City technologies will be worth $400 billion worldwide and $40 billion in the UK alone by 2020 (The Smart City Market: Opportunities for the UK, Department for Business, Innovation & Skills).

With so much cash at stake it is no surprise that there is a burgeoning industry of Smart city expos, seminars and conferences across the world. The Smart City Expo World congress – which has been running since 2011 – is perhaps the strongest example. Along with my colleague Gianluca I was lucky enough to attend the 2016 event which took place in Barcelona and presented an incredible spectacle. From police robots to speaking bins; from 3D printed buses to virtual reality planning – the conference represented a step into the

not-too-distant future. In one vast open plan conference hall, Fira Barcelona, the visitor could travel to 568 cities from 105 countries, learning about their Smart City journeys. In addition 500 exhibitors – including some of the leading names in the tech world – were showcasing their smart solution to city problems.

The conference offered a tantalising opportunity to compare the progress of cities in the UK to other cities in Europe and beyond. Setting aside the great examples from Bristol, Peterborough and Glasgow, UK cities are five or six years behind the leading Smart Cities from around the world.

1. Dubai's Smart (Robo) Cop

2. Visual thinking from a session at Smart City Expo World Congress

Seoul's Night Owl Bus Service and its Inception

The Seoul Metropolitan government worked with a local telecommunications firm, KT, to identify the areas of the city that saw the most call volume and social media usage from 1am to 5am. It developed the night bus routes accordingly to ensure they met residents' needs. There was no public consultation on the selected routes. However usage numbers and customer feedback both confirm that the route chosen was the most effective. And, by continually analysing data from Social Networking Services (SNS), the Seoul Metropolitan Government was able to incorporate resident's ideas into the early branding of the service.

How was this possible? It started in 2012 when the South Korean Government decided to deploy an open data sharing policy with its citizens. In return for allowing the government access to personal data of citizens the government allowed free access to all its own data sets to the public, through the establishment of the Seoul open data plaza (data.seoul. go.kr). The plaza is an online channel that includes real-time bus operation schedules, subway schedules, non-smoking areas, locations of public Wi-Fi services, number of restaurants, and facilities for disabled people etc. The data is provided in the open API format, and is designed to enable citizens to be able to use it for personal or business use.

Peterborough Open + Libraries

Another great example on show, and one closer to home, was Peterborough's libraries Open+ initiative. Through the incorporation of the Open+ technology imported from the Netherlands, Peterborough council have been able to keep their libraries open for 114 hours more per week and save £350,000 in doing so – an incredible feat considering that many libraries in the city had been on the brink of being closed down. It was a fascinating example of how local authorities can use technology to improve everyday services.

Read more about it here:

https://www.gov.uk/government/case-studies/bibliotheca-open-in-peterborough

Smart Bins

The new craze in the US, Smart Bins are bins that communicate with cleaners (yes, talking bins!). The fascinating technology equips bins with sensors and Wi-Fi – all powered either through Solar energy, or conventional energy in areas not blessed with high levels of sunshine. The bins are able to communicate their levels of fullness allowing cleaners to schedule their visits more efficiently.

The three examples covered in this piece are only a tiny sample of technologies that are emerging from this booming industry. But I hope they explain the intense interest that the Smart City Expo World Congress now holds for any urban planner, place-maker or regeneration specialist.

Our next piece on Smart Cities will cover a hotly discussed topic at the Smart City Expo World Congress, Smart City Leadership and the role of the Private Sector in pushing forward this agenda.

Jawad Sardar
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3. Smart Cities Exhibition Centre, Barcelona