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Looking to a smarter future

Data-driven insight holds the key to a better citizen experience in smart cities, towns and villages argues Andy Berry ... and cites examples that prove the point

More and more of our population is migrating to cities. By 2050, almost 70% of us will live in them, attracted by the prospects for employment, the cultural diversity and the extensive facilities they offer. By 2030, forecasters predict that there will be 41 mega cities with over 10 million inhabitants1. This urbanisation means that urban planners and local governments are experiencing pressure on an unprecedented scale. The decisions they make now will impact more and more people who call their cities home, but this is hard to visualise while the current infrastructure creaks at the seams.

From transport to healthcare, energy to education, public safety to pollution, the resources and underlying issues common to cities have long been subjects of concern. Enter the Internet of Things (IoT). Creating a 'smart city' - a connected community of people, places and things across digital infrastructure - might just be the answer. Already it is key to the successful management, efficiency and enjoyment of some of the world's most dynamic, thriving and vibrant cities.

Reports reveal huge sums put aside for cities to integrate technologies and benefit from the Internet of Things. In the US, city governments are forecast to invest around $41 trillion over the next 20 years so their cities can benefit from the IoT2. In Europe, the European Commission and the European Committee of the Regions announced a plan to join forces and create smarter EU cities.

So what's smart?

But what does the smart city really mean? When visualising a smart city maybe you think of streamlined, curved glass buildings, hyper-connected populations with armfuls of devices, low emission bullet trains – a kind of 'Back to the Future' meets a futuristic Gotham City in which tech super heroes eliminate crime before it happens and hoverboards are the main mode of transport. Perhaps for some cities that will be the reality. But those cities which have already earned their 'smart' colours have one critical thing in common: everything begins and ends with data. The insight extracted from this data is where the real 'smart' resides.

Think about the data generated within a city over the course of a split second: from journeys, movement, travel, transactions, experiences, evolution, buildings, infrastructure, commerce, and the connections between them. Of course, the IoT is about connectivity and infrastructure– but the power of this connectivity lies in the data generated and shared, and the intelligence this data produces. This can improve the lives of your citizens whether you're an officially-designated 'smart city' of 10 million inhabitants, or a small conurbation of just a few thousand.

Let me give you two examples of two local authorities in the UK that are using the data they generate to give their citizens a greater experience. One is a bustling university city with a population of almost half a million, and the other is in a beautiful area of Wales with a population of less than 100,000. One is a world-renowned smart city, the other isn't. But both are using data to drive digital transformation and improve the service they provide to citizens.

TORFAEN BOROUGH COUNCIL

The third smallest borough in Wales, Torfaen is home to around 91,000 residents. With access to some 300 different data sets – from geospatial data to information on local schools and public services - the Borough Council carefully considered how it could use this data to benefit its citizens and improve its internal systems in the process. To this end, it decided to implement a cloud-

based location intelligence and data management platform from Pitney Bowes. This would allow it to integrate, present and analyse data, and generate significant cost savings.

It would also facilitate new Web Mapping Services, encouraging citizen engagement and leading to improved citizen services across the Borough. Thanks to this vision, residents can now visit the Council website and use the mapping system to access information specific to their location on topics such as refuse collections, school catchment areas, journey data, highways incidents and leisure activities. It enriches the website, reduces pressure on the council's service support team, and improves the citizen experience.

The council's 700 internal users can now share spatial data internally or externally in a web application. Data is easily shared between departments that range from social services to education, from highways to land management, and from the police force to customer care. It all helps to make workflows more efficient and less costly, not least for field personnel who need to quickly identify and solve problems day or night.

The Council's website is now the hub for services and information, improving efficiency and response for constituents. Residents can report issues with roads or litter, find out where their local polling station is, voice concerns, make payments, and more.

While not officially designated a smart city – it might not use IoT-connected devices to manage its infrastructure, for example - there's no doubt that this organisation's management of data and the insight it generates offers a smart, informed, meaningful service to its communities.

The 'Bristol is Open' platform gives citizens the opportunity to digitally contribute to the city's operations. Background image © Jacek Wojnarowski / Shutterstock

BRISTOL CITY COUNCIL

Bristol is a blueprint for the smart city. The vibrant cathedral city in the South West of England is widely acknowledged as one of the first truly 'smart' cities in Europe. Recently, the city won a highly-acclaimed IoT award for its 'Bristol is Open' programmable city initiative ... one that cleverly enables citizens to digitally contribute to the city's operations. Bristol City Council, the engine room of the region, is fast gaining a reputation as one of the most forward-thinking local authorities in Europe and plays a major role in the city's 'smart' drive.

As with Torfaen, the Council realised the vast amount of valuable, meaningful intelligence that could be extracted from its data. For example, its recorded public infrastructure highway assets include carriageways, footways, street lights, retaining walls, traffic signal junctions, signs, bridges and viaducts, and have a combined gross replacement value of over £5 billion.

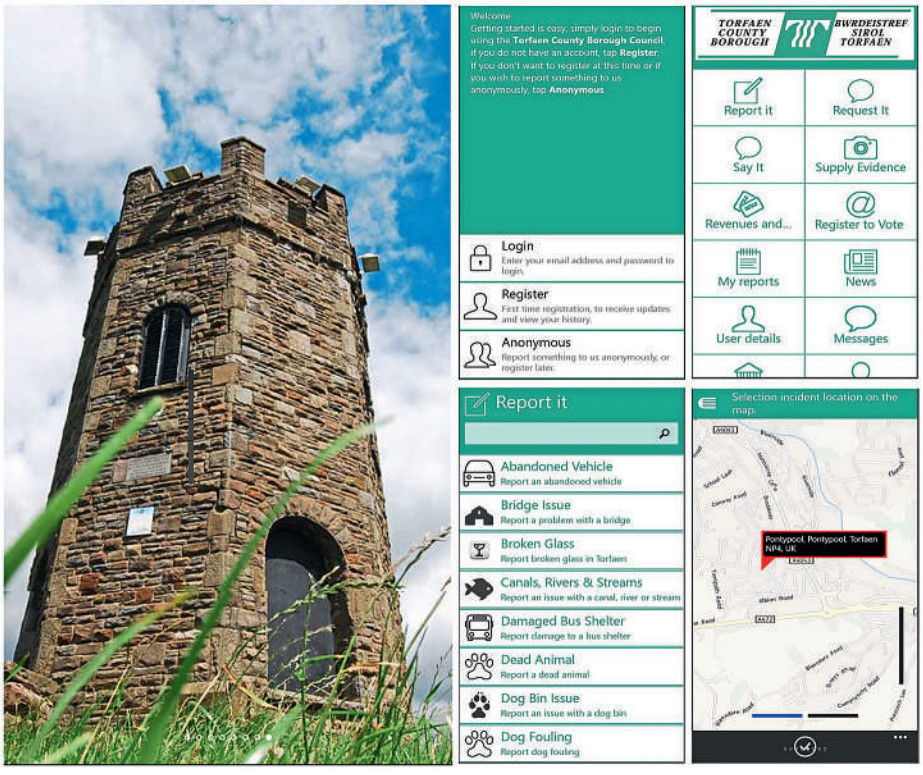
Using Pitney Bowes' Confirm OnDemand cloud-based asset infrastructure management system, the Council pulls together data on these city-wide assets through field-based inspection, data capture and risk assessments. Access to this data acts as a springboard for the Council's decision-making. For example, it can locate lamp posts positioned on Bristol's 'wireless mile' by using the sensors attached to them.

Every city is a collection of assets, from fibre cables to fire hydrants, parking meters to properties, street lights to traffic signals. When city leaders can identify, track, monitor and manage these assets, the full value and possibilities of connected technologies become clear.

Groundbreaking

Both Bristol and Torfaen are groundbreaking in their own right. Connecting, understanding and enriching real-time data to drive insights – perhaps using predictive analytics - and providing better experiences for citizens is where true value resides. Such intelligence holds the key to the gates – physical or digital – of our future towns and cities, and unleashes their 'smart' potential.

1 Source: United Nations
2 Source: Smart America



Mobile apps encourage citizen engagement across the Borough

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