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Departmental update: Smart Cities Project - SmartDublin & SmartDocklands

What is the Smart City Programme?

Smart Dublin is an initiative of the four Dublin local authorities to engage with smart technology providers, researchers and citizens to solve city challenges and improve city life. Cities and governments around the world are aspiring to be 'Smart'. While there is no clear definition of a smart city there are some common threads including a focus on the increased use of sensors and instruments that allow cities to be better monitored and managed in real time.

A smart city is also considered as one whose economy is increasingly driven by technology inspired innovation and entrepreneurship that in turn will attract businesses and jobs, create efficiencies and raise the productivity and competitiveness of the public and private sectors. Smart cities also involve increased collaboration and engagement between the city authority, the academic and business sectors and, most importantly, citizens.



The creation of a Smart Dublin regional structure in 2016 was initiated to ensure that Dublin can take full advantage of some of the big tech trends that are transforming how we live and work. These trends include Mobile, Cloud Computing, the Internet of Things (IoT), Big Data, Machine Learning and Artificial Intelligence.

One of the main ideas is to turn our city challenges into opportunities for innovation, addressing areas such as traffic congestion and mobility, how we respond to extreme weather events, improving energy efficiency and environment performance for example. At the centre of this is also how we improve citizen engagement and drive more efficient service delivery.

Year in Review 2018

Dublin City Council's adoption of Smart technologies continued to expand over 2018 particularly in the areas of traffic management, sustainable mobility, energy, waste services and environmental monitoring. A dedicated Smart City unit within DCC work alongside City Council departments and also the wider Smart Dublin regional team to ensure that we take advantage of emerging technology trends in a way that creates better outcomes for residents as well as new economic opportunities. www.smartdublin.ie

Examples of how Dublin is getting smarter

A real success story was the delivery of real time passenger information (RTPI) for Dublin's public transport system, in particular on the capital's extensive bus network – with this information now available on signage and also as a real-time data feed to your smartphone.

Dublin's Traffic Management Centre with its intelligent transport systems, adaptive traffic signalling, and public transport prioritisation as well as an extensive CCTV network (with over 200 networked cameras) helps to keep traffic moving across the city.

Dublindashboard.ie created by Maynooth University is one of the most comprehensive city dashboards globally, providing access to thousands of interactive data visualisations. Phase two of the dashboard is underway and is supported through a €2 million research grant from Science Foundation Ireland.

Croke Park (one of the largest stadiums in Europe) is one of the world's first carbon neutral stadiums and now the test bed for a suite of cutting edge Internet of Things (IoT) technologies working with companies such as Intel and Microsoft.

In order to respond more effectively to flooding we now have a network of sensors monitoring river levels, rainfall and local weather conditions in real time. The city is collaborating with Intel and the CONNECT Research Centre for Future Networks in TCD to deploy experimental low cost rainfall sensors. Over 400 smart bins (Big Belly compactors) were deployed across Dún Laoghaire-Rathdown resulting in a significant increase in efficiencies. These bins not only collect and compact waste with real time monitoring, but also measure environmental variables and passing pedestrian numbers.

Smart Docklands District:

Smart Docklands is part of Dublin City Council's fast track Smart District programme and was officially launched in February 2018 as part of a global gathering of city technology leads from over 20 cities which was convened by the Harvard TECH innovators forum. The Smart Docklands project, a partnership with the CONNECT centre for future networks based in TCD was shortlisted for Innovative project of the year at the global Smart City Expo in Barcelona in November 2018. The Smart Docklands district was created to provide a platform for start-ups, big tech, the city, and academia to come together. This initiative is supported by corporate partners such as Google, Deloitte, IBM, Accenture, Dense Air Ireland, Microsoft, Vodafone, Autodesk, Mastercard, Intel, IBM and Softbank.



In November 2018, as part of a 'Future of Mobility' festival we ran Ireland's first demonstration of a driverless shuttle along a 2km stretch on Dublin's North Quays. This generated significant interest and debate on international, national and local media.



In Feb 2018 we announced a flagship partnership with Dense Air Ireland at Mobile World Congress in Barcelona to build out Ireland’s first next generation 5G pervasive connectivity zone across the ‘Smart Docklands’ District. This is a partnership with CONNECT centre for future networks and will explore the future potential of 5G as well as the challenges in deploying these networks.

In July 2018 we announced a unique partnership with Softbank, Japan to pilot and test innovative smart city technologies in Dublin. Dublin is the first location outside of Japan that Softbank have selected for this collaboration.



Dublin City Council was also a founding member city for MasterCard’s global ‘**City Possible**’ programme (which launched in November 2018) This partnership will pilot and experiment on how cities can better deploy technology and data to enhance economic competitiveness and will feed into our Dublin Economic Monitor initiative.



Small Business Innovation Research Programme (SBIR)

We are continuing to support entrepreneurs through the Smart Dublin and Enterprise Ireland Small Business Innovation Research programme (SBIR). To date 42 companies received funding support totalling over 1.5 million euro, as well as mentoring and access to city testbed facilities. The first challenges addressed cycling, illegal dumping, wayfinding and flooding risk. Five new challenges were launched in 2018 with DCC leading on topics including Last Mile Logistics (where we partnered with Belfast city council) and Smart Mobility Hubs. Participating companies have benefitted from access to expert advice and support allowing the prototyping of their solutions across Dublin in a way that will help them scale internationally.



The Smart City programme was featured extensively on international, national and local media including a documentary feature on national Swiss TV on the 'future of cities', as well as being covered on RTE 6 One news, Virgin News and Radio stations such as Q102 and Morning Ireland.

Improved Smart City Engagement and Communication within DCC

For 2019 a key objective is to develop a wider engagement and communication plan for the Smart City project. This sets out to improve communication with DCC staff and Councillors by communicating our activities and achievements through internal newsletters (First Post), DubNet as well as regular reports submitted to SPC groups.

The communication will be paired with a staff engagement programme highlighting the opportunities that exist to get involved in the Smart City programme ensuring that the organisation continues to be relevant to the changing expectations of our citizens.

The need for more robust adoption of technology solutions is fuelled by rapid developments in technology innovation. Our aim is to evolve and to offer more customer-centric services and effectively respond to challenges facing our communities now and in the future.¹

We will promote an internal culture where staff can gain an understanding of rapidly advancing technology and where we can support digital champions in developing a positive mind-set which can help to create solutions to existing challenges such as how we better manage waste, traffic management, flooding, climate change and energy management.

Showcasing examples of technological adoption by DCC departments is an important aspect in activating the wider engagement and buy in. Successful projects include the deployment of smart bins, smarter traffic management solutions and delivery of enhanced environmental monitoring using sensors and new Internet of things technologies.

The Smart City engagement programme moves beyond the existing department silos and connects the Council with external communities, NGO's, academia and businesses in order to solve complex challenges. We will continue to leverage external communications will deliver messaging across our social platforms Twitter, LinkedIn as well as on the website, Smartdublin.ie

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¹The United Nations estimates that by 2050 Ireland's population will be 75% urban. <https://population.un.org/wup/Country-Profiles/>