Overview of IOT Demonstrator

Innovate UK - £10 M Competition for Cities

Key features: The Department for Culture, Media and Sport (DCMS) is to invest up to £10 million in a single collaborative R&D project to demonstrate the capability of the Internet of Things (IoT) in a city region.

Programme: Collaborative research and development

Opportunity: For Cities to test out these technologies and collaborate with SMEs within own regions to improve the lives of it's citizens.

Who is involved in the West Midlands Region's Bid

- ❑ Coventry City Council – Lead
- ❑ Birmingham City Council –
- ❑ Coventry and Warwickshire Local Enterprise Partners
- ❑ Black Country
- ❑ Greater Birmingham and Solihull Local Enterprise Partnership
- ❑ Private Sector Partners such as BT, Flexeye, Axillium, Hypercat City, Symantec, Samsung,
- ❑ Range of SMEs Partners
- ❑ Health Partners, Birmingham Community Healthcare Trust, Birmingham City Council Social Care, Coventry Health Trust etc
- ❑ Transport Partners, Centro
- ❑ Universities, Coventry University, Warwick University, Birmingham City University

Use Cases have been developed around 4 themes

❑ <u>Transport, Energy, Social Care and Health Care</u>

❑ Birmingham and Coventry will create a demonstrator with 200 people in each location to test out the different technologies specifically around impacts on older people (55+) in relation to health and social care, and accessibility.

❑ It will focus on different technologies in the home. Outside-in (services delivered to community or area such as social care, charity and GP visits including mobility), inside-out (community or area actively going to a service or person).

❑ It will use a combination of technologies to enable people to improve their health and well-being by providing easy access to health and social services. This will include Smart TVs, Data Hubs, Smart Phones, Sensors etc depending on the needs of the individuals.

❑ Data collected from the devices will help to inform potential future commissioning models in relation to health and social care.

The use case will address six barriers

- ❑ Lack of the necessary skill set among citizens
- ❑ Problems with data security, data sharing and ethics
- ❑ Problems with data consistency, format, storage, analysis and accessibility
- ❑ Lack of stakeholder engagement to share data
- ❑ The need for behaviour change among citizens and businesses

The Opportunity

- ❑ to use the East Birmingham as a test bed and demonstrator to address these issues and align it with the Roadmap

Timescales

- ❑ Submission by 30 September
- ❑ Initial feedback in November and shortlist
- ❑ Opportunity to refine the submission

ERDF PRIORITY AXIS 1 PROMOTING RESEARCH AND INNOVATION

❑ Outline bid application to DCLG under current bidding rounds of the European Structural and Investment Fund (ESIF) 2014 – 2020 Programme

   ❑ Round 2 call for ERDF Priority 1 Axis 1

   ❑ 25 September deadline

   ❑ Big Data Corridor – A new business economy

      ❑ Key enablers, effective business networks, stimulates demands for new products promoting best practice in the management of data

   ❑ Centre for Economics and Business Research – value to UK economy - £216 billion market; create 58,000 new jobs (by 2017)

   ❑ Outputs – support business growth (jobs created); new to the market products; new to the firm products to market; new enterprises / start-ups

   ❑ 3 year project (July 2016 -)

   ❑ Partners – Aston Uni; Warwick Uni; Future City Catapult; Digital Catapult; Transport Catapult; Innovation Birmingham; Centro; Telensa; Amey; Atos; SCC

PRIORITY CHALLENGES

Advices and systems to **improve the health and wellbeing of residents** in a **sustainable** way underpinned by **intelligent mobility** that will confirm and tackle challenges through co-designed solutions e.g.

- ❑ Tackling obesity; Reducing frailty & loneliness; Increasing physical activity; Increasing independence

What are we doing - what's different?

- ❑ Multi-dimensional management data platform encompass data sets – open data, commercial data, real time data
- ❑ **AND** personal data - unique personal data hub – home sensors; mobile; wearables; supermarket data –
- ❑ Allow exchange of personal data and industry oriented data - sort; standardise; rebundles it according to individual requirements and contextual info
- ❑ Software development tool kit and secure application sandbox – help SMEs visualise new possibilities
- ❑ Technology Demonstrator – Living Lab – citizens (as beneficiaries)
- ❑ Cutting edge of applications – Photonics – smart lighting – intelligent traffic and weather adaptive – optical fibre sensing;
- ❑ New business models – freemium models; dynamic pricing

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Big Data Corridor:

"Our aim is to mobilise and catalyse businesses supporting them to work collaboratively with researchers, technical specialists, data scientists and citizens to exploit data and IoT technologies to develop solutions that will help solve the region's growth challenges.

East Birmingham will become a playground to propel innovation and test and deploy new smart city products and services; capture new data streams; accelerating routes to market, commercialisation and export potential and creating jobs"
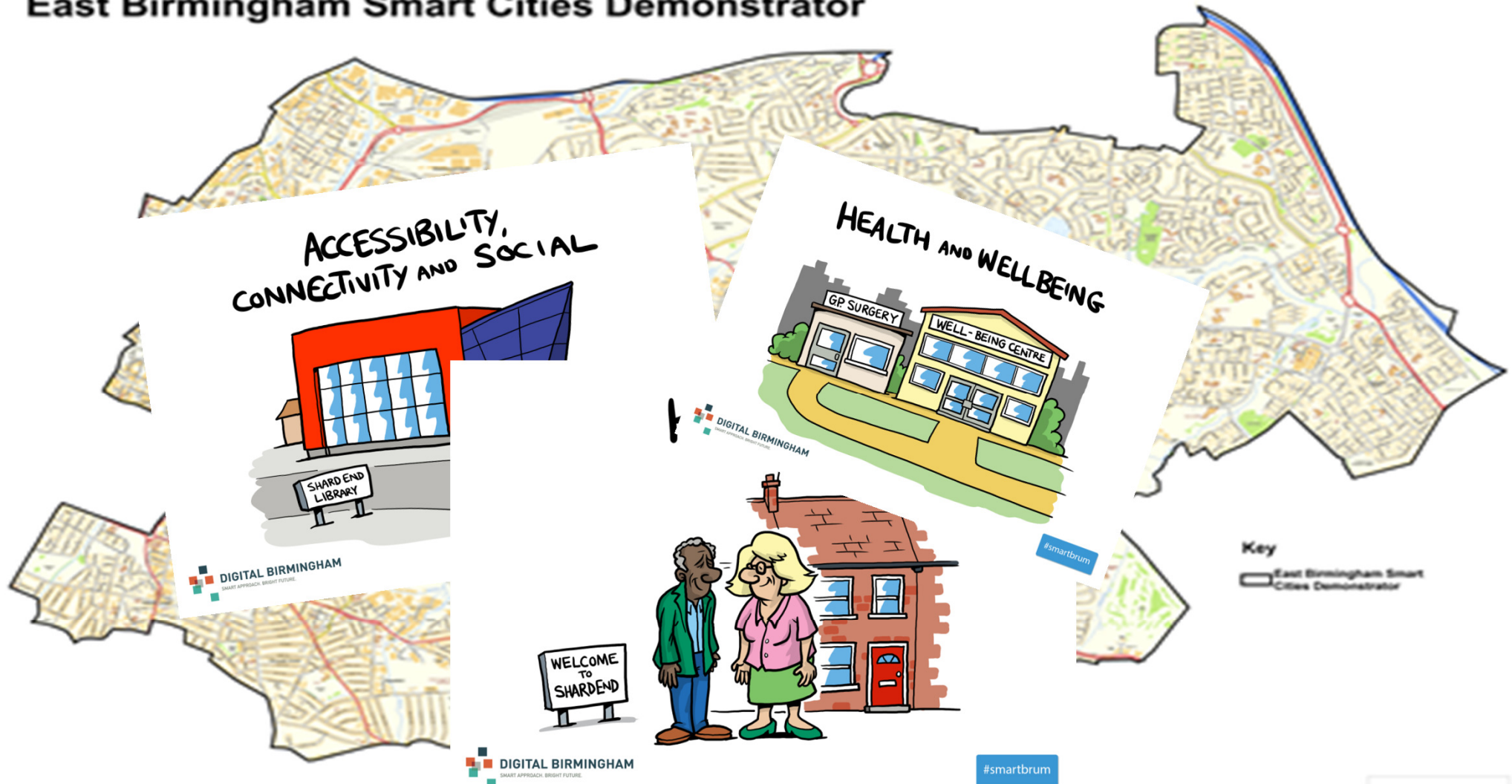
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Who are the beneficiaries?

Tim, Barbara, you, me………

CITY4AGE - city services for active and healthy ageing

❑ Horizon 2020 funded project

❑ Focus on supporting over 65's with a range of ICT tools and services who are at risk from mild cognitive impairment

❑ Detect early signs of frailty and develop preventative measures to keep older people active

❑ Detect risks related to other health problems and provide and promote incentives to remain active and involved

❑ Birmingham a test bed partner – target 90 people in East Birmingham (Washwood Heath and Shard End) – compare and contrast the use of technology based on ethnicity and demographics

City4Age – what does it involve?

❑ Creating large scale data management system to enable real time handling of personal data flows

❑ Advanced models for detection of risks for people with MCI

❑ Provide framework to deliver personalised interventions

Types of data

❑ Data collected through smart mobile devices; objects in the home e.g. health, wellbeing, movement data from sensors embedded in fridges; bed / chair sensors; televisions travel; objects in the street

Types of Interventions

❑ Just in time- services when needed

❑ Dynamic interventions – personalised messages - training memory exercises; active healthy habits

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MyJrny Project – personalised journey planning

- ❑ Collaboration between Centro, Warwick Manufacturing Group and specialist systems integration provider, Enable iD

- ❑ A new mobile app and online platform designed to demonstrate how day-to-day travel can be improved by enabling people to combine their journey intentions with real-time transport information.

- ❑ Help people to save time and money by identifying the most efficient route based on personal preferences for specific journey types – end to end journey

- ❑ Moor Street and Snow Hill rail station areas instrumented with the latest 'BLE Beacon' location based technology – air quality / temp / humidity / crowd

- ❑ Marriage of real time product data (timetables / travel options) and personal data (behavioural drivers) to enhance experience – development of intelligent B2B and B2C applications and offers to citizens