

Small Business Innovation Research (SBIR) Ireland

Smart Dublin Cycle Challenge Industry Briefing
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What is SBIR?

- ***SBIR is a pan-government, structured process, enabling the Public Sector to engage with innovative companies***
- ***SBIR = Procurement through Innovation***
- ***SBIR = Procurement through Challenge***

SBIR – Why do it?

Companies

- **Supports the development of innovative companies**
- **100% funded – NOT A Grant!**
- **Creates a lead/R&D customer**
- **Provides credibility for fund raising**
- **IP owned by co!**
- **Freedom to develop & sell your innovation in global markets**

Public Sector

- **Helps the Public Sector address challenges through innovation**
- **Contracting Authority in control throughout process**
- **Contracting Authority first to benefit from innovative new products & services**
- **SBIR operates under EU Pre-commercial Procurement Rules**

SBIR Process

- **Pre-launch phase – 3 steps**
 - Initiate Project
 - Define Scope
 - Prepare Competition
- **Launch Phase**
- **Assessment Phase**
- **Phase 1**
- **Phase 2**
- **Evaluation & Open Procurement**

SBIR Top Line Process



Potted history of SBIR

- **Created in US by Congress in 1982**
- **11 Federal agencies participating**
- **Research budgets of >\$100m required to set aside a %**
- **2015 requirement 2.9%, 2016 3%**
- **To date \$40bn has been awarded by SBIR to small business**
- **Worth \$2.5bn annually, 4,500 awards each year, majority of award-winners <25 employees**
- **SBRI – UK originally launched 2001 re-launched 2009 (NI 2013, Wales 2013, Scotland 2015)**
- **Currently a strong momentum towards adoption & embedding of SBIR/SBRI**

UK SBRI - RESULTS

- **Since 2009**
- **>270+ competitions held**
- **>8,500 co.'s applied**
- **>2,200 contracts awarded**
- **>£300 million spent**
- **>66% of contracts go to SMEs**
- **>70 Public Sector bodies engaged**
- **>30% average annual sales growth post SBRI**
- **>50% of co.'s find it easier to raise finance post SBRI**
- **>10% higher job creation in co.'s that take part in SBRI**

SBIR Ireland launched July 2014

Project 1

- **Tri-partite collaboration – EI, ESB eCars, SEAI**
- **Competition: Smart Electric Vehicle Charging Solution for Shared Parking Areas**
- **Phase 1 - €25k for technical feasibility**
- **Phase 2 - €75k approx. for demonstration phase**
- **Phase 2 to commence April 2016**

SBIR Ireland - Project 2

- **Launched October 2015**
- **SEAI – BER**
- **SBIR Smart Technology Solution for Homeowner Utilisation, Presentation, or Interpretation of Building Energy Rating (BER) datasets**
- **Evaluation Phase 1 December 2015 – February 2016**
- **Phase 1 commencement date April 2016**

SBIR Ireland – Project 3

- Launched March 8th 2016
- Collaboration between Dublin City Council + EI
- SBIR Smart Dublin Cycle Challenge Brief open until May 3rd for applications
- **Dublin seeks low cost, smart and innovative solutions to increase the number of people cycling. A call for technology and data driven proposals that address the following areas:**
 - **Better use of existing cycling data to inform the solution**
 - **Produce new cycling data to better understand the issues**
 - **Address cycling Safety (both actual accidents and perception of safety)**
 - **Address bike Security (cycle parking, bicycle theft)**
- Competition fund €100k

SBIR in Ireland

Strong Government Mandate

- **National Action Plan For Jobs**
- **Dublin Action Plan For Jobs**

SBIR Ireland What is next?

- **Required: Interested & willing Contracting Authorities (CAs)**
- **CAs with innovative problems – defining “Unmet Need”**
- **Dedicated resources & guidance**
- **Commit to process driven R&D**
- **Funding available**

UK Example: Local Authorities SBRI

- **Autumn 2011 launch of £25m Future Cities Demonstrator Programme**
- **UK Technology Strategy Board (now Innovate UK) launched its first Future Cities Demonstrator competition in Summer 2012**
- **29 cities carried out feasibility studies to show that value could be created by integrating city systems**
- **Key areas of focus: Energy, DATA, Transportation**
- **Phase 1 £1m to 15 projects, 100% funded just below £100k**
- **Phase 2 £4m available, 100% funded up to a max of £1m per project**
- **July 2014 Innovate UK investing a further £6m in Future Cities Programme**
- **Focus: improved Integration of Infrastructure and Services across a City**

- **Results of competition: SBRI - Future Cities solutions**
- **Project Title: Collaborative Parking Solution Project**
- **Ethos VO Limited (lead)**
- **Project description (provided by applicants)**
- Ethos is applying for the on-demand mobility solution challenge; focusing on parking which is a major issue for many cities. This challenge has several dimensions, including:
- Economic - 51% of motorists are turning their backs on city centres because of the difficulties posed by parking (Source: Swift cover and BIS Understanding High Street Performance Report)
- Environmental - up to 15% of vehicle emissions come from motorists trying to park their vehicle (Source: Technology Strategy Board); if this was halved, UK CO2 emissions would reduce by 38M tons annually (Source: Ofgem)
- Wellbeing - 2.5 million disabled blue badge drivers and the growing numbers of electric vehicle owners are finding that city parking services do not meet their needs (Source: Parkmobility.com and myrenaultzoe.com)
- Furthermore, cities are facing reputational damage; 3.4 million parking charge notices are issued annually for extended stays in designated spaces (Source: Swiftcover), whilst generating £565M of parking charge surpluses (Source: RAC). This has led to adverse publicity and is undermining public trust.
- The current responses are inadequate. Much parking is being outsourced, replicating broken models. New technology is being deployed but is fragmented and proprietary, often with incomplete data that is locked in individual systems or in static forms. The situation is unsustainable, no one wins. The Ethos solution provides a collaborative parking platform based on a common core dataset. Using an open source architecture, it will give free access to high quality real-time information on parking availability and pricing for use by both citizens and business. Additionally,
- the intent is to encourage an ecosystem of innovative third-party applications, using the platform to provide services that aid motorists in their journey.
- This collaborative approach will deliver benefits for all stakeholders:
- Drivers - value added services that could include among others, discount incentives for parking, notification of car parks with space or to pre-booked individual spaces
- Cities - an accurate measure of parking demand; helping to achieve optimisation of the parking asset and for parking to become a precision policy tool to help encourage flexible working behaviours
- Government - a business and governance model for self-financing open data publication
- Retailers/Employers - business intelligence for retailers to monitor sales against visitors or office car park sharing
- Entrepreneurs - use of integrated data to develop new smart initiatives such as web or mobile applications
- We will set up a Community Interest Company (CIC), a company designed specifically for those wishing to operate for the benefit of the community, which will own the Collaborative Parking platform. The CIC will be funded from the optimisation of the participating cities' parking assets. It is anticipated that key stakeholders will own a share in the CIC and excess profits generated from operating the platform will be reinvested for the benefit of the cities' residents.

Technology Strategy Board

Driving Innovation

- **Results of competition: SBRI - Future Cities solutions**
- **Project Title: CEDS – City Energy Demand Simulation**
- **Project description :** Our proposal addresses Challenge 1. CEDS - The City Energy Demand Simulation - provides cities and local authorities with the means to visualise future energy demand (including gas and electricity) for any geographic area ranging from a street, to a district, to the city itself, including both residential and industrial/commercial energy demand.
- CEDS allows planners and decision makers to easily visualise the impacts of alternative demand and supply side energy investment strategies on overall energy costs, emissions, and fuel poverty levels. This will be important for cities and planners because the innovative features of CEDS will enable planners to understand the impacts of new energy technology deployments on the energy demand of buildings.
- - CEDS can demonstrate the relative economic and environmental attractiveness of local energy supply schemes such as district heating combined with power versus importing electricity from the grid;
- - CEDS can illuminate the impacts of technology deployment by social geography within the city boundaries
- Therefore, CEDS will allow cities and local authorities to clearly identify how to deploy limited capital budgets to greatest effect when developing low carbon, cost effective local energy infrastructure. By modelling future demand, supply and cost scenarios, cities will be able to prioritise the development of local energy assets, such as district heating networks, energy from waste, retrofit and new build locations. CEDS will enable cities to understand how they can deliver on their priorities for ensuring there are cost effective locations for business and industry, with a secure supply, whilst also helping tackle fuel poverty and reducing carbon emissions and energy costs.
- CEDS has been made possible by building on the innovative work done by the Energy Saving Trust, supported by the UCL Energy Institute, for National Grid and Western Power Distribution (WPD). These projects were focused on the future shape and scale of demand at national and electricity sub-station (typically a few hundred homes) level respectively. In both projects the work centred on premise modelling combining EST's information on the fabric of buildings, demographics of occupants with EST datasets on the performance of alternative technologies in buildings, as well as UCL's expertise in industrial/commercial energy demand.
- CEDS is truly ground-breaking in that it enables holistic design of the future energy architecture of a city taking into account the economic, environmental and social outcomes of alternative options. CEDS will be a truly sustainable decision making tool.

Technology Strategy Board

Driving Innovation

- Results of SBRI competition: Future Cities Solutions
- **Project Title: Open City Data Platform**
- The Open City Data Platform is a fully autonomous, self sustaining open source project built upon robust pre-existing open source assets, legal frameworks and open source processes. The OCDP is a collaborative venture created for the direct benefit of cities themselves. As a non-profit venture, cities and local authorities will be the principle stakeholders controlling the organisation. The platform provides a single administration interface to allow multiple city/local authority employees to the following:
 - -to publish static data over interoperable, easy to use JavaScript and HTTP APIs
 - -to publish dynamic data, whether being issued by database or live IOT devices, over the same developer friendly APIs
 - -to create, catalogue and manage the lifecycle of these APIs from a simple to use admin interface
 - -to manage the security settings of users, 3rd party applications and the APIs and services themselves
 - -to expose this data not only to developers but to end users through a simple visualisation dashboard and GUI-enabled data processing interface

This vision is realised through the following technical components:

-API portal for dynamic and static data: the principle interface for developers to discover and access APIs

-Data and Services Access Toolkit (DSAT) and open source framework for creating and sharing standalone adaptor to help authorities quickly integrate in new data sources, databases and devices on to the system and API enable

-Open City Data Management Platform: the core administrator interface to allow authorities to manage users, permissions, APIs, visualisation and contains a 3rd part application registry

-a Data Visualisation Toolkit: which provides open source visual drag and drop interfaces for not only creating sophisticated informative dashboards which consume APIs but also can be used by non-technical users to define new data processing chains (essentially new applications and data mash-ups)

-In addition the project is scoped to deliver simple demonstrator applications which will show how these components can be combined for different verticals: traffic energy and environment. Also scoped for delivery are essential exploitation activities to assure that the Open Source City Framework is sustainable and addressing genuine city needs through consultation, Such an ambitious project is possible by basing it on existing Open Source Assets from the webinos project which has received a €15m investment. Nquiring Minds leading the project is eminently qualified to deliver this project and importantly has a business model already totally compatible with and dependent on open source principles.

Q&A

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