A. Profile of the Initiative

Geographic Region: Western Europe and Others
Name of Country/Territory: United Kingdom
Name of City/Local Authority: Bristol
Organization: Knowle West Media Centre
Title, name and position of person(s) submitting Basic City Data:

Basic City Data
Population Size: 459,300
Population Growth Rate(%): 4.50
Surface Area (km²): 110
Population Density (people/km²): 4,046
GDP Per Capita (U.S.$): 39,720.4
GINI Index: 0.332
URL/Webpage of Your City:
URL/Webpage of the Initiative: http://www.bristolapproach.org/
Main source of prosperity (e.g. industry, trade, tourism, creative industry, etc.):

B. Title and Abstract

For a large integrated initiative, please consider submitting up to three initiatives under the same title. For example, you may wish to submit under “Low-Carbon Urban Development for My City” an initiative on public transport, an initiative on energy efficiency in buildings, and an initiative on use of renewable energy.

Title or Tagline of the Initiative: The Bristol Approach to Citizen Sensing
Sub-title: Citizen Sensing
Start date of the initiative: 2016-01-01
Tentative End Date of the Initiative (if not yet completed): 2019-07-31
Thematic Areas: Social Economic, Environmental, Governance/Management, Technology

Abstract/Short description of the innovative initiative being submitted for Award (150 words max): The Bristol Approach to Citizen Sensing originated in Bristol, UK, and was designed to complement ‘smart city’ initiatives that are led by the capabilities of technology - by focusing on the needs of citizens. The Approach provides a replicable framework and series of resources that can be utilised by different groups - from city and regional government, businesses and schools to
community organisations and citizens – to identify pressing issues in their city and ways to tackle them using a combination of sensing technologies and existing resources and expertise.

Since it was launched in 2016, the Approach, designed by Knowle West Media Centre, Ideas for Change and Bristol City Council, has been utilised in pilot projects in Bristol and shared across the world as a collaborative and innovative approach to engaging a wide range of people in imagining, designing and creating the futures they want to see.

**C. Background Information**

Describe the legislative or policy framework under which the initiative is taking place, for example, a public policy document at the central or local government level, a policy statement, a covenant, a compact or internationally recognized agreement including, for example, the Sustainable Development Goals, and/or the New Urban Agenda

Bristol is a founder member of the Rockefeller Global 100 Resilient Cities initiative. Bristol’s Resilience Strategy was launched in 2016, providing a framework for action to protect the city against shocks and stresses it may encounter in future. The Bristol Approach supports the Strategy’s aim to disrupt patterns that have resulted in inequality and environmental problems, by creating space for socially-driven innovation. Ultimately, the Approach supports the Sustainable Development Goals as it provides a framework for sustainable and inclusive growth.

**D. Summary of the Origins of the Initiative**

Describe what sparked the initiative and how the initiative came about and what challenges or issues of sustainable development it is meant to address using the following lead questions as your guide (350 words max)

1. Describe briefly the reason(s) for undertaking the initiative including social, economic, political or cultural challenge(s) or issues confronting the city/region/community. Include where relevant number of people, enterprises or institutions affected.

   ‘Smart city’ initiatives don’t always take into account the needs of communities, imposing technical solutions rather than collaborating with citizens to address the challenges and issues that can lead to deprivation and digital and social exclusion. A 2015 report by the UK charity Nesta identified a number of things
that have held ‘smart cities’ back from delivering real value, including: not
addressing the issues people really care about; a lack of focus on the skills
people need to use smart technologies; and not focusing on shared, open
resources (Saunders, T. & Baeck, P. 2015, Rethinking Smart Cities From The
Ground Up). In 2016 Bristol was named by the first UK Smart Cities Index as the
leading ‘smart city’ outside London, yet the 2015 Deprivation in Bristol report from
Bristol City Council noted that “Bristol continues to have deprivation ‘hot spots’
that are amongst some of the most deprived areas in the country” while the 2016
Bristol Quality of Life survey revealed only a quarter of residents felt they could
influence decisions about their area, with confidence as low as 11% in some
areas.

2. Describe the goals of the initiative in terms of desired change or outcome and
timeframe for achieving the change or outcome (for example, change in policy,
strategy, business model, technology, means of implementation, financing
arrangements, human development and empowerment, measuring and
evaluating progress and impact, etc.).

The Bristol Approach to Citizen Sensing aims to rethink the ‘top-down’ approach
frequently used in ‘smart city’ initiatives and provide strategies and support to
help cities, businesses, academic institutions and communities develop projects
that deploy relevant technologies, such as sensors, to gather data that will
increase understanding of local issues and aid the development of new solutions,
whilst also enabling citizens to develop the knowledge, networks, skills, and
open-source tools to create positive social change themselves. By giving
citizens a genuine stake in the solutions that are developed, the Approach aims
to increase the chances that these solutions will be sustained over time and will
lead to real improvements in quality of life.

The Approach was launched in 2015 and has already been used in several pilot
projects in Bristol. As a framework, rather than a project in itself, the Approach
has no end date and is not prescriptive in the time that users should take to follow
it. Users of the Approach are encouraged to use it iteratively, building on the
work developed during the first cycle in the second, and remaining in each of its
six phases as long as necessary.

3. Describe whether the innovation involves any partnership (public-public,
public-private, public-community, etc.) and if yes, who is or was the leading
partner(s), the role they each played and whether other parties have benefited or are benefiting from your innovation and how?

The Approach was developed by Knowle West Media Centre (KWMC), with partners Ideas for Change (an innovation company based in Barcelona, Spain) and Bristol City Council (Bristol's local authority). Central to the Approach is bringing together people from different backgrounds, with different expertise, to tackle a shared challenge.

The two Bristol-based pilot initiatives following the Approach have engaged a range of stakeholders including citizens, artists, technologists, academics and the city council. One participant in the first pilot project commented: “The Bristol Approach is interesting because it is not just a matter of getting the technology right - it’s taking a much more holistic approach to gathering data and using it,” while another said: “I enjoyed working with people from different backgrounds […] That was an interesting experience because we all brought something different to the discussion.”

The widespread social, strategic and collaborative benefits of the adopting the Approach have already been recognised internationally, with the Approach being named an URBACT Good Practice in 2017.

4. Describe the resources used for implementing the initiative, including funding/financing strategy or arrangements and any significant contributions that are not in cash, for example, in human, technical or managerial resources.

Funding from The REPLICATE Project – a five-year European initiative involving three cities – has enabled Knowle West Media Centre to pilot the Approach in Bristol in two projects exploring damp in homes and poor air quality. The REPLICATE Project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 691735. Prototype sensors used in one of the pilot project were developed with support from the Computer Science Research Centre at the University of the West of England (UWE). Many of the citizens involved in the pilot projects have volunteered their time in the spirit of the 'city commons', where resources, tools and time are shared for the common good.

**E. Summary of the Innovative Aspect(s) of the Initiative**

Describe the innovation for the initiative using the following lead questions as a guide. (350 words max)
1. Describe whether the initiative should be considered evolutionary or revolutionary. Evolutionary would imply that innovation evolved over time based on lessons learned from experience and that the changes or outcomes are cumulative. Revolutionary would imply something quite new or something that has been borrowed from elsewhere but never been tried before in the sector or context in question and therefore bears a certain degree of risk. If it’s borrowed from elsewhere, describe what the linkage with the other preceding experiences is.

The Bristol Approach is an evolutionary initiative. The phases of its framework were formalised in 2016, when Knowle West Media Centre (KWMC), Bristol City Council and Ideas for Change combined their learning from years of research and project work – work carried out both independently and collaboratively. KWMC itself developed out of an arts and health project that KWMC Director Carolyn Hassan delivered in 1996, and the robust planning and evaluation framework that underpins KWMC’s work informed the development of the Approach. KWMC adopts an action research approach - a specific approach to research that does not start with a fixed ‘hypothesis’ to test but with an idea that could be explored further. The research process then explores and refines the idea through dialogue and creative exchange with a range of people, who are all involved as co-researchers rather than as ‘researchees.’ This principle is reflected in the initial phases of the Approach - ‘identification’ and ‘framing’ - where time is dedicated to working with citizens and stakeholders to uncover issues, challenges and opportunities that could inform the development of an initiative.

2. Describe where the innovation is being applied, for example, in policy or strategy; planning, design and implementation; business model or financing arrangement; tools and technology; governance and administration; etc.

The Approach has implications for the strategy, planning, design and implementation of technology initiatives – from small-scale projects to large ‘smart city’ endeavours.

The ‘identification’ and ‘framing’ phases of the Approach relate to strategic planning. They support project planners to collaborate with citizens and stakeholders to identify pressing issues, explore them in more detail and investigate how technology and data could be utilised to tackle them.

The ‘design’ phase of the Approach relates to the development of tools that are needed to tackle the issue. This could include collecting data, visualizing it for others to see, or creating physical objects.
The ‘deployment’, ‘orchestration’ and ‘outcome’ phases of the Approach relate to the implementation of projects and initiatives, as they cover the testing of the tools designed in the previous phase, raising awareness of what has been achieved, and evaluating whether the goals and issues outlined in the ‘identification’ have been achieved and tackled.

3. Describe whether there was or are any obstacles or resistance to the innovation and if so, how were/are they being overcome.

In order to secure funding for an initiative, organisations are often expected to identify in advance the issues they will tackle and the likely outcomes. The resulting projects often have little scope for change to accommodate citizen needs or align with local priorities. The Bristol Approach offers an alternative approach which is grounded in local needs, and while it may not provide the ‘certainty’ that funders require about what the final outcomes will be, it can ensure that the eventual outcomes are the result of active citizen participation. Successful applications of the Approach can help to make the case for designing and funding projects in ways that are less prescriptive: it demonstrates that research and innovation undertaken in collaboration with stakeholders can yield practical results, such as a solution to a genuine challenge, and create added value, such as increased confidence, new business opportunities and new partnerships.

F. Summary of the Desired Change or Outcome and how it is being Measured

Describe how the initiative, and in particular the innovation, is or will be making a qualitative and/or quantitative change and how that change or outcome is being measured. (350 words max)

1. What change(s) or outcome(s) have you already achieved or hope to achieve? Please describe the nature of the change(s) or outcome(s) in, for example, improved quality of life; new levels of social, economic or environmental sustainability, including new attitudes and behavior; improved efficiency, effectiveness, accountability or transparency, etc. Please describe the scale of the change, for example, primarily local, regional, national or global and where possible, please quantify the change(s) or outcome(s) being achieved.

The Bristol Approach has had an impact at both micro level - within specific neighbourhoods of Bristol - and macro level - through international sharing of the framework. At local level, citizens in Bristol have been engaged in trialling new
technologies and engaging in environmental activity, alongside their neighbours. KWMC implemented the six phases of the Approach in 2016 in a pilot project in Bristol, focusing on the problem of damp homes. KWMC supported people to collaborate to develop and test a ‘damp-busting’ system which included: temperature and humidity sensors, digital interfaces to make sense of the data, and training for volunteers to tackle the problem on a practical level. Over 700 people aged 13-80 were engaged in over 45 events and 10 years of damp report data was made available by Bristol City Council. Learning from this pilot has already informed a second project exploring poor air quality, as part of The REPLICATE Project in Bristol. As part of this project KWMC is currently collaborating with stakeholders to develop new data sharing agreements, cases for mobile air quality sensors, and an app to store and visualise the gathered data.

2. What indicators or metrics are you using to assess the change? Describe who is doing the measuring, and who is using the measurements and how.

KWMC measures the success of these pilot projects, and the Approach in general, in a number of ways including recording: the number of citizens engaged in pilot projects; the depth of that engagement such as citizens' confidence to affect change; the data gathered in response to the issue identified; reported changes in behaviour; and the amount of open data and open-source resources made available to others.

3. Describe any specific tools or methods that were developed or applied to improve the chances to attain the desired outcome or change, for example, new working methods, new data and information, new incentives or disincentives, new means of communication and knowledge, new technology, etc.

Key to the Approach is the ‘commons’ – a collection of resources, tools, expertise and technologies that are shared for the common good. The Approach itself is a new working method and ‘commons’ resource and KWMC has also produced an action guide and the website bristolapproach.org to aid others in following the framework. The pilot projects in Bristol, focusing on damp homes and poor air quality, have led to the development of a number of new tools and resources, including prototypes for mobile temperature / humidity and air quality sensors, portable sensor cases, an an exhibition of interactive artworks and visualisations to help people interpret data and understand how it is collected.

The pilots have already led to some data being made publicly available - such as 10 years of damp report data - and KWMC hopes to share anonymised data
gathered by the air quality sensors via open data platforms currently being developed by Bristol City Council.

4. How does the initiative and its intended changes or outcomes contribute to a new image or reputation for your city or community?

At international level KWMC and partners have shared learning from the Approach with policy-makers and influencers through international networks including the Intelligent Community Forum and the European Network of Living Labs, raising the profile of Bristol as a city where ‘smart’ technology is combined with local knowledge and used intelligently to create lasting change. KWMC’s work on the Approach featured in the Knowle West neighbourhood’s application for status as one of the Intelligent Community Forum’s Smart21 communities – places around the world where technology is used for social good. Knowle West, a community of approximately 12,000 people within the wider city of Bristol, was subsequently shortlisted – the only UK community to make the list, alongside capital cities including Moscow, Astana and Ottawa. KWMC regularly hosts visits to Knowle West and Bristol for delegations from around the world to share practice, including the Approach.

The Approach was also cited as a ‘key area of focus’ in the profile of Bristol in the UK Smart Cities Index 2017 (p.23), saying: "a key element of Bristol’s smart city and innovation strategy is a focus on citizen-centric solutions. The city council along with the Knowle West Media Centre and Ideas for Change, launched a programme called The Bristol Approach, which aims to put communities at the heart of innovation. The Bristol Approach focuses on supporting people to work together to identify the knowledge, technology, and resources needed to tackle a problem."

G. Describe what you think other cities can learn from our initiative and what your city/community is prepared to do to further that learning.

In using the framework and resources of The Bristol Approach, other cities can learn:

· How to enable the development of a ‘city commons’ where data, resources and skills are shared for the common good.
· How a collaborative approach can both engage citizens and create innovations that are more likely to be taken-up, sustained and have a cost-effective impact.

· How to engage citizens in the development of city infrastructure, learning from KWMC’s collaboration with Bristol Is Open (BIO), which is “creating an open programmable city that gives citizens more ways to participate-in and contribute-to the way their city works.”

· How to work with citizens to increase understanding of technology and policy safeguards that are key to responsible innovation (such as data sharing agreements and contracts) – and how to engage citizens in their creation.

· How to build relationships with similar initiatives and encourage collaboration, rather than competition, learning from KWMC’s work with Making Sense, Air Apparent UK and other ‘citizen sensing’ projects.

KWMC regularly shares the Approach at conferences and workshops across the world and has developed a series of open resources at bristolapproach.org. KWMC also offers training and consultancy to support other cities to implement the Approach in their context.

**H. Relevance of the Initiative to the 2030 Agenda for Sustainable Development, Commonly Referred to as the “Sustainable Development Goals” and to the New Urban Agenda.**

Please tick the most appropriate boxes and provide a brief description of the relevance of your initiative in relation to the relevant goal(s). Please also refer to the complete text of the Sustainable Development Goals at: www.un.org/sustainabledevelopment/sustainable-development-goals./Regarding the New Urban Agenda please refer to the Action Framework for Implementing the New Urban Agenda at: www.unhabitat.org and http://nua.unhabitat.org/AFINUA19thApr.pdf

- Goal 1: End poverty in all of its forms
- Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Goal 3: Ensure healthy lives and promote well-being for all ages
- Goal 4: Ensure inclusive and equitable education and promote life-long learning opportunities for all
- Goal 5: Achieve gender equality and empower all women and girls
- Goal 6: Ensure availability and sustainable management of water and sanitation for all
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Goal 10: Reduce inequality within and among countries
Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable
The relevant targets in the case of Goal 11:
Target 1: Access for all to adequate, safe and affordable housing and basic services and upgrade slums
Target 2: Access to safe, affordable, accessible and sustainable transport systems for all
Target 3: Participatory, integrated and sustainable human settlement planning and management
Target 4: Safeguard cultural and natural heritage
Target 5: Reduce deaths and number of people affected by disasters with particular focus on the poor and people in vulnerable situations
Target 6: Improve air quality and manage municipal and other wastes
Target 7: Universal access to safe, inclusive and accessible green and public spaces, in particular of women, children older persons and persons with disabilities
Target 8: Support positive economic, social and environmental links between urban, peri-urban and rural areas
Target 9: Improving resource efficiency, mitigation and adaptation to climate change, resilience to disasters and implement holistic disaster risk management
Target 10: Support least developed countries in building sustainable and resilient buildings utilizing local materials
Goal 12: Ensure sustainable consumption and production patterns
Goal 13: Take urgent action to combat climate change and its impacts
Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions for all
Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

I. Descriptive Materials in Annex to the Document

These are materials destined to allow members of the Technical Committee and the Jury to have a better understanding of the context of your initiative which is a very important consideration. Please do not exceed the specifications below; anything that exceeds these specifications may not be availed to the Technical Committee or the Jury. Please provide, where possible and relevant, the following:

◆ Up to 5 press clippings or copies of covers and tables of content of reports published on the initiative.
◆ Up to 5 photos (with titles) that best illustrate the initiative (.jpeg at 300 dpi, 2000 x 2000 px max).

◆ Up to 5 graphics that best illustrate the initiative (300 dpi). These graphics could illustrate for example, trends, ratios or percentages; tools or technologies; etc.

◆ 1 map that best illustrates the physical context of the initiative (300 dpi)

◆ 1 chart that best illustrates the initiative (300 dpi)

◆ 1 technical drawing (300 dpi)

J. Additional material

Any additional material such as videos should be submitted on a DVD/CD or by email to the Secretariat at info@guangzhouaward.org.

Note: Any additional material should be submitted to the Secretariat via email or mailing.

The Guangzhou Award Secretariat

Tel: +86-20-66289390

Fax: +86-20-66289391

Email: info@guangzhouaward.org

Website: http://www.guangzhouaward.org

Address: 3901-02, Pearl River International Building, 112 Yuehua Lu, Guangzhou, P.R. China