Application of smartCATALONIA, scaling the smart city concept to a regional initiative

A. Profile of the Initiative

<table>
<thead>
<tr>
<th>Geographic Region</th>
<th>Western Europe and Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country/Region</td>
<td>Spain</td>
</tr>
<tr>
<td>Name of City/Local Authority</td>
<td>Government of Catalonia</td>
</tr>
<tr>
<td>Organization</td>
<td>Ministry for Digital Policy and Public Administration</td>
</tr>
</tbody>
</table>

Title, Name and Position of Person(s) Leading the Initiative

Basic City Data

<table>
<thead>
<tr>
<th>Population size: 7,534,813</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population Growth Rate(%)0.50</td>
</tr>
<tr>
<td>Surface Area (sq.km): 32108.000</td>
</tr>
<tr>
<td>Population Density (people/sq.km): 235.300</td>
</tr>
<tr>
<td>GDP Per Capita (U.S.$): 33440.000</td>
</tr>
<tr>
<td>GINI Index: 0.362</td>
</tr>
</tbody>
</table>

URL/Webpage of Your City:

URL/Webpage of Your Initiative:

Main source of prosperity (e.g. industry, trade, tourism, creative industry, etc.): Tourism, Industry, International Trade, R+D, Innovation

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.

<table>
<thead>
<tr>
<th>Title or Tagline of the Initiative</th>
<th>smartCATALONIA, scaling the smart city concept to a regional initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-title</td>
<td></td>
</tr>
<tr>
<td>Start date of the initiative</td>
<td>2014-10-01</td>
</tr>
<tr>
<td>Tentative End Date of the Initiative (if not yet completed)</td>
<td>2020-01-01</td>
</tr>
</tbody>
</table>

Thematic Areas

<table>
<thead>
<tr>
<th>Social</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic</td>
</tr>
<tr>
<td>Environmental</td>
</tr>
<tr>
<td>Governance/Management</td>
</tr>
<tr>
<td>Technology</td>
</tr>
</tbody>
</table>

Abstract/Short description of the innovative initiative being submitted for Award.(150 words max)
smartCATALONIA is an initiative by the Government of Catalonia forming a network of more than 50 cities, and 350 private partners, including research and technology centers, industry and companies, start-ups and academia, to share challenges, best practices and deploy urban solutions, generating economies of scale by adopting similar projects, and developing new business models to implement and sustain urban innovation across the region. The initiative was initially launched in October 2014 to integrate challenges and solutions and promote city governance. Later, in December 2016, having assessed its success through the implementation of innovation in public services and promoting economic growth across some fifty networked cities, the initiative was reinforced to further economic growth and alignment with international frameworks, such as the Sustainable Development Goals (SDGs) and the New Urban Agenda.

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.

Two Government Agreements have promoted the development and implementation of smartCATALONIA initiative: 28 October 2014 and 13 December 2016. Initially, smartCATALONIA was aligned with the European Commission’s axis for a sustainable development. In 2018, smartCATALONIA has been measured against the SDGs, in order to assess its impact in the global framework and determine to what extent the different cities and communities in Catalonia are aligned with global objectives.

D. Summary of the Origins of the Initiative
Describe 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.

The overarching reason for promoting smartCATALONIA is the conviction that digital technologies are an essential tool for pursuing the objectives of:- Economic competitiveness- Qualified employment- Digital skills, including addressing gender gap in ICT- Efficient management of resources, infrastructures- Improving the environment and quality of life- Efficiency of public services and citizen engagement. The challenge was addressing urban development in some 50 municipalities, bringing forward the benefits of innovation and technology for improving citizen quality of life, creating business opportunities and tackling technology and investment risks. smartCATALONIA involves the government of Catalonia, the councils of the different
municipalities, technology and research centers, industries and solution providers. Overall, more than 70 public entities and 350 private partners.

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.).

- Developing a new regulatory framework for the new digital economy, including a regulation on digital rights and responsibilities.
- Promoting a framework to enhance collaborations between the Government and municipalities and the private sector. Promoting a more equitable development of the territory.
- Deploying urban initiatives in the territory with a rationale of sharing projects and gaining critical mass. Strengthening the competitive position through: Big data, 5G, Blockchain, AI, Cybersecurity.
- Promoting technological careers among young people and women.
- Promoting the deployment of the Open Government strategy of the Government and its interrelationship with other municipalities.

Quantitative (2020) objectives: Cities: 60. Urban projects: 400. STEM students: 57,000

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?

smartCATALONIA is a Government-led initiative that pursues public-private alliances for developing projects: IoT Catalan Alliance: Local Internet of things consortium to promote IoT Industry (65 companies, 35 non-profit entities). Catalonia Smart Drones: Group that promotes the sector of services and solutions with drones (Government, 61 companies, 26 non-profits). 5GBarcelona: public-private initiative to transform the metropolitan area of Barcelona into a European reference innovation lab of 5G technologies, with open experimental infrastructures (3 Government bodies, 5 research centres, 15 companies)

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.

Integrates public budget (both from the Government and municipalities) and private investments in the form of solution development for initial testing. European funding is also an asset for developing projects in consortia.

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.
smartCATALONIA is a revolutionary initiative of territorial innovation, and the first region to establish a program to further integrated economic and urban development of its communities.

1.2 inspired or borrowed
This is a very innovative initiative with no previous references, although through international relations and benchmarking processes we have learnt from other experiences world-wide. Some examples:
Catalonia smartLab: the experience of "traditional" Innovation Labs was brought into a network of urban laboratories to test and validate solutions in real environments. Its aim is twofold: promote the technology by providing access to infrastructure and equipment, and enhancing open innovation in cities by participating in pilot tests. So far, 15 smart projects have been developed in different Catalan cities.
Platform for Smart Region: the idea of smart city platform is being developed integrating different cities' data and information in a unique shared platform. It is also being developed with other layers of government.
Parking (Aparcar) App: many cities have App’s for on street parking. But the innovation here lays in the fact that a single app is used for all cities. It streamlines the payment process in the parking zone without having to go to the meter. Thanks to the geo-location system, the app locates the street where it has been parked and the corresponding rate in each case.

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
From its inception smartCATALONIA is innovative, and therefore innovation is applied in all levels:
- Facilitating the linking of the elements of the innovation ecosystem in Catalonia: municipalities, industry, research and technology centers, academia and talent.
- Testing, researching, prototyping and deploying urban solutions and new technologies to improve cities.
- Generating a market and industry for these kinds of solutions: attracting investments, talent and start-ups that generate economic tissue and growth.
- Developing new business models for the sustainability of urban solutions: promoting new business models, alliances and PPPs.

3. Describe whether there was or are any obstacles or resistance to the innovation and if so, how were/are they being overcome.
Initial obstacles appeared in the form of the multiplicity of stakeholders to integrate. A Governance model has resulted to be very effective in order to align efforts and resources, and bear track of the innovations developed and deployed.
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.

Until July 2018, 95 solutions have been implemented in 52 cities partnering with 73 companies. Specific outcomes from projects:

- smartCATALONIA Challenge: competition to promote the creation of new solutions to face city challenges 2 editions, 700 participants, 90 solutions, 18 projects in 9 municipalities.
  Solutions include: Minuts (participation), Daysk (coworking), YoTeCuido (health), Psonrie (health), Whereis (social care), Bisafe and BusUp (mobility).

- Catalonia smartLab: network of urban laboratories across Catalan municipalities to test and validate urban solutions in real environments 15 solutions tested in 10 cities, including smart mobility and parking, waste, e-voting, energy. Currently, business models for the deployment of these projects at a larger scale are being studied. In order to collaborate with other cities, we are partnering with the European Commission.

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.

Through the Observatory smartCATALONIA, the Government assesses the development of the initiative (http://observatori.smartcatalonia.gencat.cat/). Information includes the state of deployment of urban solutions in the cities. It also showcases the different solutions tested, the metrics and business models for solution delivery and the market/challenge needs (see additional documentation). This is an open tool. Users of the Observatory include: municipalities, citizens, industry, research centers. It is very efficient in partner searching for joint projects and for sharing city challenges and needs.

Indicators:
- Cities: number of inhabitants, maturity level, technology needs, urban challenges, priority areas.
- Research centers: areas, technologies.
- Companies: solution, technology areas, competences.

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.

The Observatory smartCATALONIA has specifically been developed to offer the state of development of the different initiatives, to exchange experiences and create synergies,
catalyze projects and solutions, offer a marketplace for business development and visualize what’s been done and how.

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

smartCATALONIA is a successful initiative: it has helped cohesion the territory and promoted the development of smart cities and digital infrastructure in Catalonia. It facilitates joint projects between municipalities and helps develop new models of public-private partnerships. Citizens regard smartCATALONIA as a great policy to further the digital transition in our economy. At the international level, the European Commission, UN-ECE and the World Bank have shown interest in learning about this policy for economic development and community cohesion.

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.

Choose any of the above headings or a particular aspect of the initiative that you wish to highlight and that you think best describes the reasons why the innovative aspect(s) of the initiative could be of benefit to improving social, economic and environmental sustainability in cities and regions and, in so doing, to advance the prosperity and quality of life of their citizens. (400 words max)

We are working on joint partnerships and agreements with other cities and territories in the world in order to exchange best practices, lessons learnt and promote joint collaboration projects between municipalities and companies: Rhône-Alpes (France), Lombardy (Italy), Baden-Wurttemberg (Germany), Singapore, Québec (Canada), Flanders (Belgium), California (US), Estonia, Macau (China), etc. For example, a specific agreement has been pursued with institutions from Québec in order to learn from their drone industry and ecosystem. Or in India, in order to bring them our experience in a citizen collaborative project for mobile network coverage, which is very useful in rural areas and less developed communities. In order to further contribute not only to our territory development, but also make our contribution to global development, we are committed to the SDGs and therefore we are currently studying the impact of the smartCATALONIA initiative against the 17 SGD’s and the 169 sub-goals. We believe this will also serve to scale and share successful solutions with other cities and communities in the world. This study will be presented at the Smart City Expo 2018 (November in Barcelona).

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/

| 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 11: Make cities and human settlements inclusive, safe, resilient and sustainable |
| 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 |

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
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