

Preparatory Action on  
Smart Rural Areas in the 21<sup>st</sup> Century



Policy Analysis – Task 4.2: Assess options for future  
actions

Case study:

Call for innovative projects ‘Smart Territory’

Wallonia, Belgium

Case study report

Contract Reference Number: AGRI-2019-409

February 2022



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## 1 Summary

In 2019, Wallonia launched a call for innovative projects 'Smart Territory'.

The specific objectives of the call for projects were:

- Improve the efficiency of municipalities and therefore of the service to citizens;
- Create useful micro-services for citizens;
- Meet the needs of citizens;
- Include the notion of digital transformation at the strategic and long-term levels in cities and towns;
- Co-finance concrete, ambitious and innovative projects;
- Develop solutions and services by Walloon SMEs and start-ups.

Three thematic areas were targeted:

- 1 Mobility and logistics ('At the service of optimised mobility');
- 2 Energy and environment ('For more efficient management of energy resources and the environment');
- 3 Governance and citizenship ('At the service of increased citizen interaction and participation').

Forty three projects (including more than 20 in rural areas) were selected out of the 88 project proposals submitted (61 of which came from rural communities). The total budget for the projects is € 7.8 million and the amount of allocated regional grants is € 4 million. Awarded project themes included governance and citizenship, and civic participation (44%), energy and environment (30%), and mobility (26%).

The rural projects deal with different themes:

- Smart-zone equipped with light sensors;
- Mobility and parking routes optimised for daily trips or for thematic circuits, by means of 'soft mobility';
- Public administration;
- Support for citizenship through the establishment of citizen platforms, serious games, etc.

In terms of overall impact, the call for projects had a ripple effect:

- Kick-off for many actors to seize the subject of digital transformation;
- Spotlight on the theme of digital transformation;
- Market growth.



## 2 Background of the Call for innovative projects ‘Smart Territory’

### 2.1 Context of the intervention

Table 1: Overview of the intervention

<b>Name</b>	Call for innovative projects ‘Smart Territory’ ( <i>Appel à projets innovants ‘Territoire intelligent’</i> )
<b>Level of implementation</b>	Regional (Wallonia)
<b>Period</b>	2019 – 2021
<b>Policy context/source of funding</b>	Initiative launched in the ‘Digital Wallonia’ smart policy context by the Minister of Digitalisation – <i>Ministre du Numérique</i> (€ 3 000 000) and the Minister of Local Government – <i>Ministre des Pouvoirs Locaux</i> (€ 1 000 000).
<b>Amount of funding (EUR)</b>	€ 4 000 000 (funds provided only by the regional government)

### 2.2 Objectives

In 2015, a first Walloon digital strategy was developed, in particular thanks to a participatory approach and a diagnosis involving working groups made up of actors and representatives of the Walloon digital ecosystem (<https://www.digitalwallonia.be/fr/publications/assises-du-numerique>). For several years also, the region and its partners have published several barometers relating to digital skills:

- Companies;
- Citizens;
- Municipalities.

The regional strategy has been updated for the 2019-2024 period. Through its strategic plan ‘Digital Wallonia’ 2019-2024, the Walloon government intends to:

- Strengthen the overall performance of the Walloon territory and its sustainability;
- Promote the digital transformation of the Walloon territory;
- Strengthen the coherence, accelerate and give visibility to smart projects carried out at the scale of cities and municipalities;
- Increase the digital maturity of municipalities (estimated at 3.67 on a scale from 1 to 10 in 2018);
- Make financial resources available;
- Implement a regional environment conducive to the deployment of Smart City initiatives.

The specific objectives of the call for projects:

- Improve the efficiency of municipalities and therefore of the service to citizens;
- Create useful micro-services for citizens;



- Meet the needs of citizens;
- Include the notion of digital transformation at the strategic and long-term levels in cities and towns;
- Co-finance concrete, ambitious and innovative projects;
- Develop solutions and services by Walloon SMEs and start-ups.

### 2.3 Understanding of the ‘Smart Villages’ concept

No reference is made to the Smart Village concept in the action described. More generally, in Wallonia, the concept of ‘Smart Village’ is not theorised or used. The trend today is rather to use the concept of ‘Smart Territory’ to be more encompassing and not to oppose rural territories to urban territories (‘smart city’ versus ‘stupid village’!).

Today, especially for the Walloon LEADER Local Action Groups (LAGs), “A ‘Smart Territory’ is an ecosystem of stakeholders (local government, citizens, associations, multinational and local companies, universities, research centres, international institutions, etc.)... engaged in a sustainable transition process (strategic vision and/or concrete innovative projects)... in a given area... using new technologies (digital in particular) as a facilitator... to achieve these sustainability goals (economic development, social well-being and environmental respect).”

In this, Wallonia followed a certain trend: emergence of the notion of Smart City in urban areas in the early 2000s (technical approach), then progressive use of the term ‘Smart Rurality’ in parallel when public policies became interested in the digital transformation of the entire territory, then fusion of approaches and semantic shift towards the global notion of ‘Smart Territory’.

## 3 Implementation of the intervention

### 3.1 Spatial context of implementation

Table 2: Basic information on the spatial context

<b>Name of locality/region</b>	Wallonia
<b>Surface area (km<sup>2</sup>)</b>	16 901.29 km <sup>2</sup>
<b>Number of inhabitants</b>	3 648 206
<b>Three main strengths</b>	<ol style="list-style-type: none"> <li>1 Existence of a regional strategic framework (Smart Region strategy ‘Digital Wallonia’)</li> <li>2 Existing SME ecosystem to offer smart solutions and services (as mapped out by the Walloon Digital Agency: <a href="https://www.digitalwallonia.be/fr/tags/startup#secteurDuNumerique">https://www.digitalwallonia.be/fr/tags/startup#secteurDuNumerique</a> and in a start-up barometer in 2018: <a href="https://www.digitalwallonia.be/fr/publications/startups2018">https://www.digitalwallonia.be/fr/publications/startups2018</a>)</li> <li>3 Actors and institutions to support digital transformation, Smart Region academic and scientific referents (Smart City Institute, Futurocité, E-</li> </ol>

	Campus, Multitel Research Center, Universities).
<b>Three main challenges</b>	<ol style="list-style-type: none"> <li>1 Improve the digital transformation of municipalities (development of e-services, participation tools, reduction of the energy bill, decision-making process, monitoring of the territory, data governance) – see Figure 2.</li> <li>2 Contribute to market growth for the benefit of a sustainable territory.</li> <li>3 Support the rise in digital skills of local human resources (level of progress of municipalities in terms of Smart Cities estimated at 3.67 [on a scale from 1 to 10] in 2018 – lack of expertise and human resources at municipal level) – see Figure 1.</li> </ol>

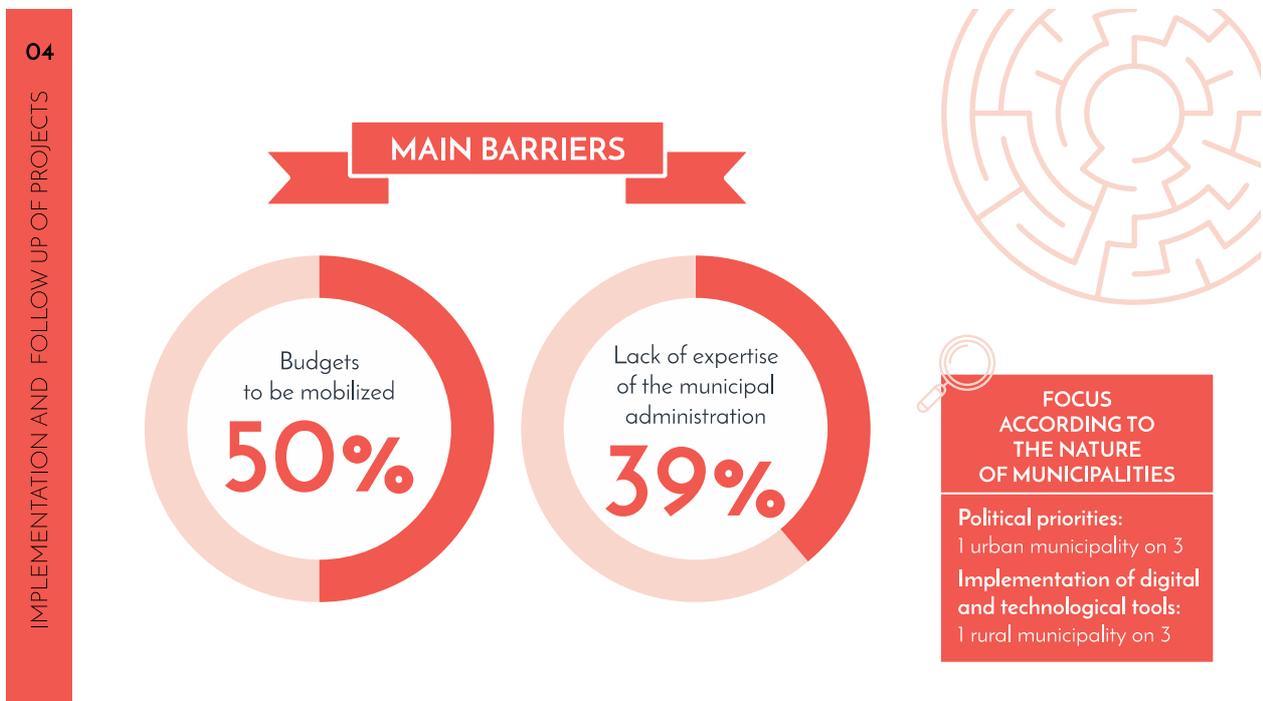


Figure 1: Main barriers – Barometer 2018 Smart Cities in Belgium

50% of municipalities reported having difficulty mobilising budgets for Smart Cities.

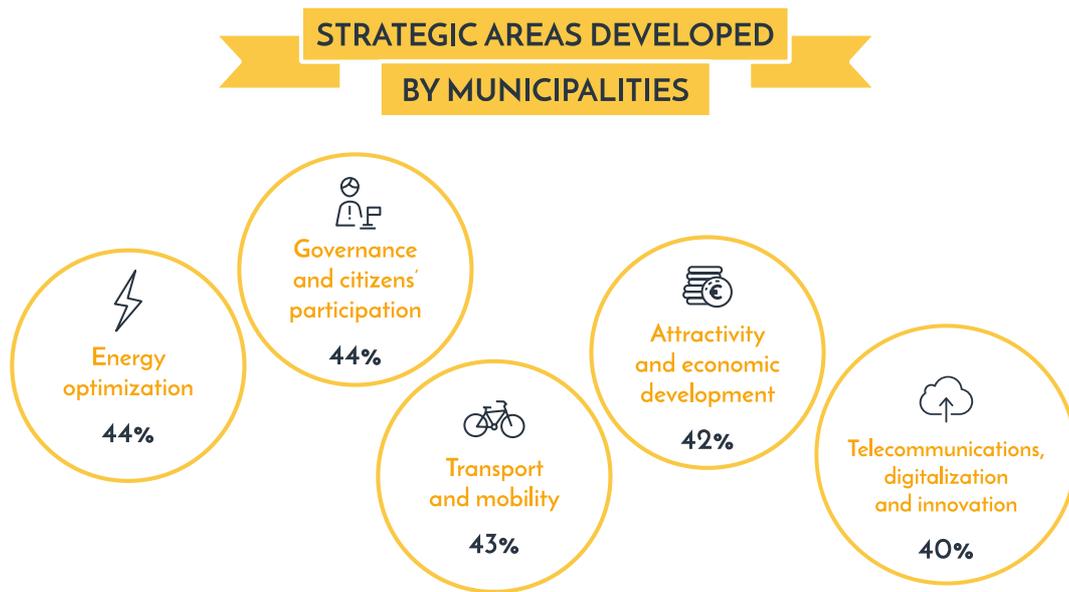


Figure 2: Strategic areas developed by municipalities – Barometer 2018 Smart Cities in Belgium

### 3.2 Target groups/beneficiaries

There are two types of beneficiaries:

- Walloon towns and municipalities of all sizes (even the smallest rural municipalities), alone or in groups;
- Intermunicipal organisations for economic development, as intermediaries for the development of a project on the territory of one or more municipalities, to help one or more municipalities to benefit from the digital transformation.

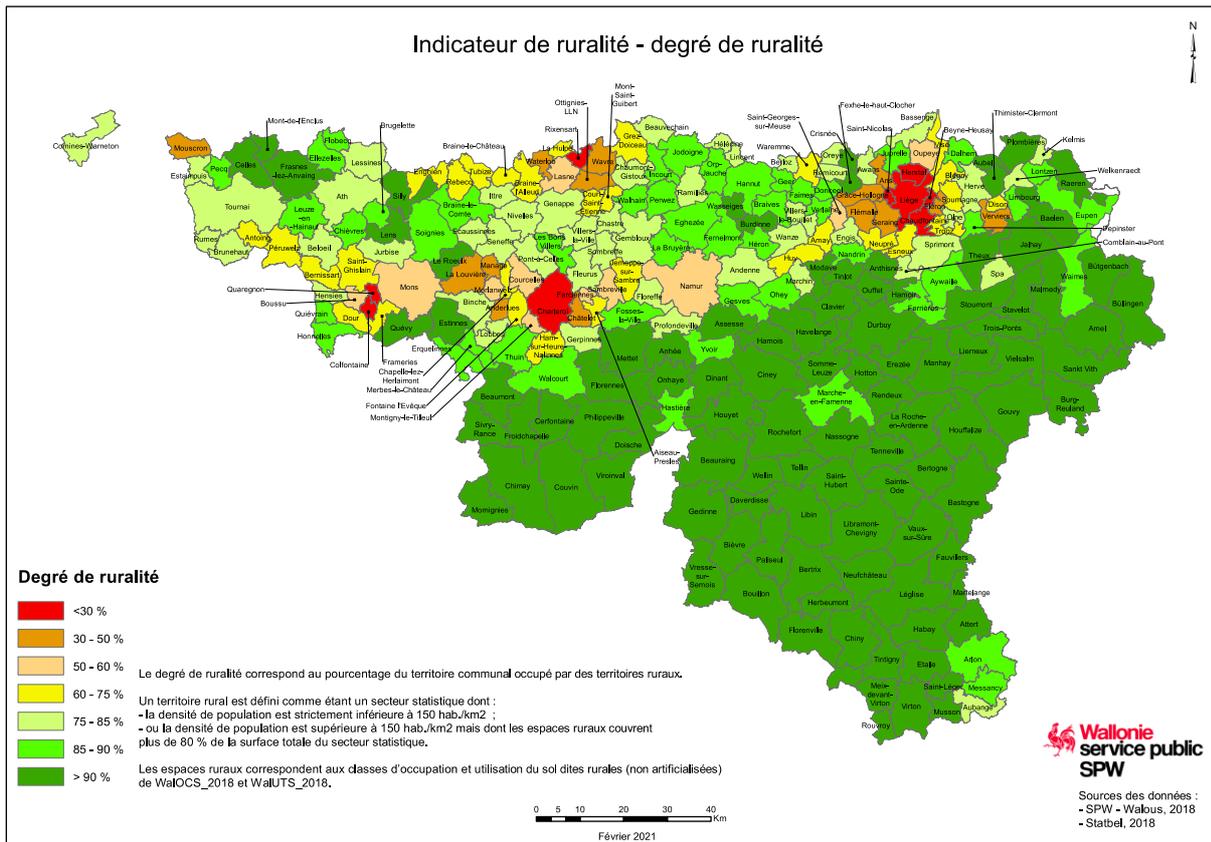


Figure 3: Rurality indicator for the 262 Walloon municipalities

### 3.3 Activities implemented, methodology and/or key features of the intervention

The projects concerned by the call had to:

- Integrate a digital and/or technological component, with the use, for example, of the Internet of Things (IoT), Artificial Intelligence (AI), data analytics, etc.
- Develop solutions dedicated to the evolution of municipal services, platforms for managing a service or flow, applications for micro-services for the citizen user, etc.

Three thematic areas were targeted:

#### 1 Mobility and logistics ('At the service of optimised mobility')

- Promote the use of all travel options
- Improve communication with the user
- Coordinate the various existing means of mobility

#### Examples :

- System allowing a reduction of traffic jams
- Optimised management of mobility and parking flows
- Sustainable distribution of goods from/to the city centre to revitalise and relieve



congestion in the city centre

## 2 Energy and environment ('For more efficient management of energy resources and the environment')

- Use digital technologies to achieve the objectives set at COP21 and thus limit global warming
- Better manage waste and natural resources

### Examples:

- Improving air quality through sensors
- Real-time information collection platform, coupled with the sending of information to citizens

## 3 Governance and citizenship ('At the service of increased citizen interaction and participation')

- Have citizens contribute to the development or evaluation of local public policies
- Respond to the demand for transparency
- Include citizens in the development process of their municipality
- Adapt the administrative system to the digital age

The call for projects required applicants of at least one innovative SME for the implementation of their project(s). This was required to give access to Walloon start-ups to public markets and to highlight Walloon talents (example: presence of 15 Walloon companies at the Consumer Electronics Show in Las Vegas).

The project evaluation criteria were as follows:

- The implementation of a priority theme (energy and environment, mobility and logistics, governance and citizenship);
- Data: data generation, governance and sovereignty, open data, security;
- Citizen participation, search for transparency and openness;
- Innovative, interoperable, open and replicable character;
- Consistency of the project with the local strategy (Transversal Strategic Plan) in order to be sustainable.

Funds for projects:

- 50% co-financing from the region of Wallonia
  - With guaranteed minimum intervention of € 20 000, capped at € 250 000 per project.
  - The minimum amount allows all Walloon towns and municipalities to participate in this project (even the smallest rural municipalities).
- Additional amount equal to 10% of the project amount
  - To allow support from an external consultant for the implementation of the winning projects.
  - With a maximum of € 25 000.



Timeline:

- 15 January 2019: Opening of the project submission platform.
- 31 March 2019: Closing of the project submission period.
- 3 May 2019: End of the evaluation period.
- 10 May 2019: Deliberation and final jury.

## 4 Impact of the intervention in terms of key features of the Smart Village approach

### 4.1 General impact

Forty three laureates were selected (20 of which are rural municipalities) out of the 88 projects proposals submitted (61 of which came from rural communities). The total budget for the projects is € 7.8 million and the amount of allocated regional grants is € 4 million. Awarded project themes included governance and citizenship, and civic participation (44%), energy and environment (30%), and mobility (26%).

In relation to the impact in terms of the 'Smart Village' concept, the project has reinforced the need for an all-encompassing smart approach that makes it possible to understand the relationship between urban areas and countryside effectively for the benefit of integrated territorial development.

What we see in Wallonia is that basically, the issues and needs are often the same in urban or rural areas, it is the scale and the method of responding to them that diverge.

In terms of overall impact, the project had a ripple effect:

- Kick-off for many actors to seize the subject of digital transformation;
- Spotlight on the theme of digital transformation;
- Market growth.

By way of illustration of the results, here is a description of three projects, out of the 43 winners:

#### **BiomMap**

The project is supported by the municipality of Wasseiges and is implemented in collaboration with the Local Action Group (LAG) Meuse@Campagnes.

Citizen participatory production of qualitative data on biotopes (hedges, trees, islets, plantations, etc.) on a web platform, which also allows citizens to visualise the biodiversity potential of their plot/municipality in order to receive advice on their plot and to point out public places to maintain in terms of biodiversity.

The main expected improvement is the initiation of concrete actions to improve the quality of the ecological network across 5% of the territory.

At the end of the project, it is anticipated that the various stakeholders on the Wasseiges territory will have a tool to help their decision-making and to steer concrete actions. Biodiversity diagnosis will be more precise and constantly fed by contributions from the field.

More information: [https://enrd.ec.europa.eu/projects-practice/biommap-belgium-wallonia\\_en](https://enrd.ec.europa.eu/projects-practice/biommap-belgium-wallonia_en)



## Sentinels trucks

The project is supported by the Bureau Economique de la Province de Namur (intermunicipal organisation) in collaboration with three pilot municipalities, the University of Namur and the Belgian Institute for Postal Services and Telecommunications.

It is a project for a platform for collecting, storing, processing and distributing data from an on-board IoT hub in garbage trucks with sensors for air quality, connectivity, road quality and congestion, etc. The project deploys a web interface for citizens and municipalities, as well as a possibility of crowdsourcing to consolidate the data collected by the trucks. This is in connection with the open-data platform acquired by the Bureau Economique de la Province de Namur for its member municipalities (and with an Application Programming Interfaces – APIs).

More information:

<http://www.futurocite.be/app/uploads/2019/10/4b-BEP-camions-sentinelles.pdf>

<https://www.bep-developpement-territorial.be/actualites/smart-city-lappel-doffres-pour-les-camions-sentinelles-est-lance/>

## Wellin-Compétences

The project is supported by the municipality of Wellin.

It is a citizen participation web portal to promote the skills of the inhabitants, to allow the transmission of know-how, to create links and sharing among citizens of different generations in an inclusive manner.

From a virtual platform, it is also a question of proposing concrete actions of social links (through conferences, exhibitions, sharing of skills, tastings, promotion, festive events). Recently, the site made it possible to create a directory of local talents and to bring them together between two lockdown periods in 2021.

More information: <https://www.wellin-competences.org>

## 4.2 Interplay of social and technological innovation (digitalisation)

The call for projects was geared more towards technology than social innovation (cf. 3.3) and was intended in particular to allow supply and demand to meet between Walloon technology providers and municipalities. Nevertheless, a certain social innovation can be noted in the new uses that have been developed (crowdsourcing, e-services, etc.).

## 4.3 Other aspects of relevance

Although the link between the projects and the local strategy is an eligibility criterion, few of the winning territories had a diagnosis of their Smart City needs when they submitted their application. The call for projects could have been a trigger for certain territories and set them in motion within the framework of smart roadmaps to be built, for others it was more simply a one-off financial opportunity.

From a social point of view, attention must be paid to the way in which these projects can reinforce certain inequalities of access to digital technology.

## 5 Lessons learned from the intervention

### 5.1 Success factors and bottlenecks

**Table 3: Main success factors of the intervention**

Success factors	Short explanation
Existence of a digital ecosystem	Main strengths (see section 3.1): <ul style="list-style-type: none"> <li>Existing SME ecosystem to offer smart solutions and services (as mapped out by the Walloon Digital Agency):  <a href="https://www.digitalwallonia.be/fr/tags/startup#secteurDuNumerique">https://www.digitalwallonia.be/fr/tags/startup#secteurDuNumerique</a></li> <li>Actors and institutions to support digital transformation, Smart Region academic and scientific referents (Smart City Institute, Futurocité, E-Campus, Multitel Research Center, Universities...)</li> <li>Digital ambassadors (acculturation by peers)  <a href="https://www.digitalwallonia.be/fr/projets/champions#publications">https://www.digitalwallonia.be/fr/projets/champions#publications</a></li> </ul>
Links with the regional strategy	Existence of a regional strategic framework (Smart Region strategy 'Digital Wallonia')

**Table 4: Main bottlenecks of the intervention**

Bottlenecks	Short explanation
Lack of preliminary diagnoses of local needs	Opportunity effects and call for projects rather oriented by technology providers  Lack of focus on correctly diagnosed needs
Lack of human resources at the local level	Lack of expertise and human resources to propose/candidate/monitor projects at the level of small municipalities (technical specifications, monitoring of technological markets, etc.)

### 5.2 Transferability

Transferability was part of the eligibility criteria and therefore the projects are subject to documentation. Times for discussion and sharing of good practices marked the period of development of the actions.

#### 5.2.1 Key principles transferable to other thematic contexts

The logic of calls for projects makes it possible to target regional action and is in this sense more effective in initiating pilot approaches than ordinary financing under common law.



### 5.2.2 Spatial transferability

In the Walloon Region, the examination of the current needs of small rural municipalities in terms of Smart Territory shows that the themes are quite similar to those of other territorial scales (mobility, participation, energy, etc.). The factors that limit the deployment of solutions in small towns are related to their scale: market too small, maintenance costs, etc. Today, we need to think about how to pool smart solutions. From a geographical point of view, the scale of the LAGs is in this sense relevant for carrying out projects.

The transfer of experience from this Walloon experience to more metropolitan areas should be studied in more detail, but at least the intermediation of supply and demand (between service providers and principals) to grow the market and acculturating is a transferable fundamental.

On a comparable rural scale, the call for projects approach is also transferable with regard to the pilot effect that would be sought.

## 6 Conclusions

### 6.1 Scope of the intervention for supporting the Smart Village approach

The call for Smart Territories projects has the virtue of popularising a concept little known to the general public and local elected officials in particular. Only a few technicians are familiar with them and this has been particularly through European exchanges.

Even if, as stated above, in Wallonia the more encompassing theoretical approach, namely the notion/concept of 'Smart Territory' is preferred and used, in substance the objectives pursued by the call for Smart Territory projects are the same as those pursued by the EU Commission in its definition of the 'Smart Village':

*"Smart Villages are communities in rural areas **that use innovative solutions** to improve their resilience, building on local strengths and opportunities. They rely on a **participatory approach to develop and implement their strategy** to improve their economic, social and/or environmental conditions, in particular, by mobilising solutions offered by digital technologies. Smart Villages **benefit from cooperation and alliances** with other communities and actors in rural and urban areas. The initiation and the implementation of Smart Village strategies may build on existing initiatives and can be funded by **a variety of public and private sources.**"*

We find in the Walloon call for projects the constituent elements that are the desire to innovate or increase the sustainability of the territory by mobilising technological and digital means. There is also an obligation to promote governance and citizen participation.

The question of private financing is not dealt with/sought through the Walloon call for Smart Territories projects, but on the other hand, counterparts are requested (50%). For the future, the question of mobilising private funds deserves to be studied.

### 6.2 Implications for further development of the 'Smart Village' concept

For Wallonia (see above), it is the definition of 'Smart Territory', rather than 'Smart Village' that deserves to be worked on and disseminated to as many people as possible. NB: the French translation of the word 'smart' ('intelligent') is less rich/colourful/subtle than in English. But the concept covers many dimensions



that are already developed through approaches such as LEADER, for example.

Furthermore, the European definition emphasises the necessary cooperation between actors in urban and rural areas. It is interesting to note that because the smart approach is by nature cross-cutting and makes it possible to address multi-thematic issues with common tools, it facilitates urban-rural dialogue and the adoption of possibly common solutions.

### 6.3 Other aspects

As stated above, while the issues are common between urban and rural territories, it is the scale and the method that differ. This difference in scale implies (this is what we see and what is promoted) that there is a necessary logic of pooling and a relevant local scale to be found in order to develop humanly and economically sustainable solutions for municipalities.

This also implies that service providers and suppliers of technical solutions and the market can offer micro-services and adapted and sustainable solutions on a smaller scale.

It is also the advantage of going through the logic of pilot projects and calls for projects: being able to test solutions and then transfer/replicate the results and lessons learned.

## 7 References

- <https://www.digitalwallonia.be/en>
- [https://www.smart-city.uliege.be/cms/c\\_4316710/en/smartcity](https://www.smart-city.uliege.be/cms/c_4316710/en/smartcity)
- [https://www.smart-city.uliege.be/cms/c\\_4871531/en/smartcity-scientific-publications](https://www.smart-city.uliege.be/cms/c_4871531/en/smartcity-scientific-publications)
- <http://www.futurocite.be>
- <https://librairie.ademe.fr/urbanisme-et-batiment/1316-ville-intelligente-s-invente-dans-les-proximities-la.html>

## 8 ANNEX: Methodological approach of the case study

### 8.1 Desk research

See references.

### 8.2 Expert interviews

- Anne Dethy, Director of the Department of European Programmes – Public Service of Wallonia – General Directorate of Agriculture, Natural Resources and the Environment (DGARNE)
- Benoît Muller – IDELUX – Smart Cities manager/Project manager – Economic office of the Province of Luxembourg
- Bernard Dubuisson, Alderman of the commune of Profondeville -
- Cécile Mestrez, Coordinator of the Meuse@campagne LAG



- François Laureys, Project Manager – Territorial Strategy & Smart Cities – Territorial Development – Economic Office of the Province of Namur (BEP)
- Isabelle Rawart & Pascal Poty – Digital Agency/DigitalWallonia
- Jérôme Mabilie, Coordinator of Ocalia Belgium
- Marie Langhendries, Coordinator of the Culturalities LAG / Quentin Vandersteen (smart project manager)
- Olivier Vergeynst Director of the Belgian Responsible Digital Institute <https://institutnr.org>
- Prof. Nicolas Dendoncker, Head of the Master in Smart Rurality, University of NamurOther