# SMART PROFONDEVILLE

# PROFONDEVILLE
COULEURS NATURE

# SMART VILLAGE STRATEGY OF PROFONDEVILLE (BELGIUM-WALLONIA)



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## Foreword: Smart Rural Profondeville

Profondeville is a municipality assembling 6 villages in the gorgeous Haute-Meuse river valley in Namur Province, Belgium. The whole 6 villages has around 12,000 inhabitants on 50,34 km² out of which 50 % of farming land and 27 % of forests.

Located near the city of Namur, Profondeville faces the stakes of many suburban villages. It has to keep its rural identity and quality of life while accompanying the unavoidable development of housing and tertiary sectors.

To us, becoming a smart village is about **getting ahead**. We could rant on how digital transition is important and how we can't afford to miss the "smart" train. On how "disruptive" opportunities must be seized in every domain, including rural life.

Rather, we are convinced that we must *get ahead*, that is, take our fate into our own hands and decide ourselves in what ways technology can help us face challenges and improve our rural communities and citizens lives. In this game changing trend, it is up to us to decide what we embrace and what we don't.

An illustration is the current vivid debate over 5G deployment in our area, that has shed a light on how many people refuse to subscribe to an agenda set up far away. We want to explore the ways technology can have a positive impact on people's lives and get ahead on how technology should contribute to our lives, instead of submitting to an industry roadmap probably unfit for rural areas and useless to its challenges.

In order to do this, we have to invest time, money and attention in exploring how technology can help us face challenges, and how much we allow it to do so. The definition of such an agenda on local level is ours. It could and it should be an inclusive, democratic process.

# I.    INTRODUCTION

## 1.1 Local governance in Profondeville

The **Town council** (« conseil communal ») is the main representative assembly and has 23 elected representatives from all six villages with a 6-year mandate. The council names 7 executive mandates the form the **Town college** (« collège communal ») with the mission to run the local administration: the mayor (« bourgmestre »), the social action council president (« Président du CPAS »), and 5 deputy mayors (« échevins »). Each executive mandate comes with a set of competencies, but all decisions are taken collegially within the college.

The **Social Action Council** (« CPAS ») is managed apart of the general policies and benefits a large autonomy due to the sensitive and personal matters addressed in helping the unprivileged.

The college and council are where most decisions are taken on the local level. Apart from that, there's two advisory bodies. The **CCATM**, advisory council of urban planning and mobility, has a say in urban development and transportation orientations. And the **VADA** committee ("Ville amie des Aînés", or elderly-friendly town) is an advisory board for all matters regarding the elderly population.

## 1.2 What is a 'village' in Belgium & Wallonia?

Local administrative entities in Belgium used to fit the landscape of local communities, or villages. In 1976, a reform led to larger entities, gathering several villages. Those entities are still in place now and constitute the most local form of governance.

Profondeville is one of such local entities, encompassing 6 older villages, ranging from 500 to 3000 inhabitants: Bois-de-Villers, Arbre, Rivière, Lesve, Lustin and Profondeville. While the old villages have lost their official meaning, they are still very vivid in people's minds. Someone from Lustin will not identify with someone from Bois-de-Villers. The old identities also remain strong with regard to social life, communities, and celebrations. For example, each village has its own local yearly feast and celebrates its own war heroes.

Once a year, on August 15th, a special event gathers all six villages, along with two other neighbouring villages in other entities, for a week-end of inter-village games, in a very successful effort to feed on village identities and social cohesion in order to bring everyone together in a joyful celebration.

## 1.3 What smart is for Profondeville

To us, "smart" means using the opportunities opened by technology to :

- transform local political life through an intensification of participatory dynamics,

- help the green transition (energy, mobility),

- foster business development,

- and offer a better quality of life to our citizen.

In this changing world, we believe that technology plays a big role in shaping people's lifes and society. We are aware that these changes must be acknowledged by communities and public actors. However, we are cautious of not falling into the technological approach of territorial development and planning. Also, we are defiant of the common wisdom that technology inevitably brings progress. We put the priority on a user centric approach, serving the needs of the citizens with appropriate means.

# II.    CONTEXT

## 2.1 Context of the smart village strategy development

**Profondeville is no different than any other**. We are not particularly "tech savvy", but we're not lacking behind either.

While most services generally use digital tools on an every day basis, until now, the local administration hasn't equipped itself with any roadmap whatsoever regarding digital. Computers and software have been seen in the traditional way, as tools to serve the existing purpose of public services. There wasn't a public servant in charge of the computer infrastructure inside our administration and no clear vision on how technology can contribute to the public service's evolution.

However, since 2019, the town council has been renewed. New political executives have brought some technological awareness, reflecting the general evolution in society towards more familiarity with technology.

With fresh ideas in mind, some actions have been launched, and rationality has been introduced to "connect the dots" of existing initiatives. It is now time and we are pleased to seize the opportunity to define a clearer path towards technological development.

Through a partnership with the BEP (Economic Office of the Province of Namur - intercommunal for economic development), the municipality of Profondeville has developed its smart/digital roadmap. The SmartRural21 call for projects offers the opportunity for the municipality of Profondeville to finetune its smart strategy and to negotiate various supports in its operational implementation, both from the project and from the Walloon institutions in charge of smart dynamics.

## 2.2 Existing strategies & initiatives

### 2.2.1 Links to existing local strategies

Our strategy is the PST, or "**Plan stratégique transversal**". It relies on six main strategic goals, 28 operational goals and 168 actions and projects. The strategic goals are:

> 1. Keep the **quality of life** in our villages: public infrastructures, buildings and monuments; cleanliness of public spaces; wariness towards big development projects.

> 2. Keep our villages **attractive** in relationship with the environment: value our assets in all their dimensions.

3. Face our **environmental responsibility**: face the challenges of mobility, biodiversity, urban planning and energy performance.

4. Be a town where **everyone feels good**: improve social cohesiveness, address the challenge of ageing, maintaining and encouraging solidarity.

5. Provide a **user centric** approach to local public services

6. Improve and modernize the **management** to address long term challenges: improve citizen participation, face internal functioning

In the PST, there is no digital chapter. Indeed, we don't think of technology as a goal in itself but as a means to support some of the goals. Reflecting on this existing strategy, we identify several ways a smart strategy can contribute to goals and actions.

1. First and foremost, a smart strategy can help us to be more efficient in our action. For example, a consistent and efficient way of dealing with data in the local public services can help us reach several strategic goals (1,2,3 and 4 especially).

2. Another way to help the strategy is to develop online services in order to contribute to goal 5. Online services can be effective to offer "self service" for the majority who can afford it, while decluttering the physical front desk and focussing human face time to help the citizens who really need it.

3. Smart = new forms of citizen commitment, ways to improve the involvement in public life.

Reference :

- https://www.profondeville.be/actualites/pst-final-18-10-2019.pdf

Along with the PST, we have drafted a **digital diagnosis and roadmap** with the help of BEP (intercommunal economic development bureau of the Province of Namur) with specific points of attention. This roadmap has been useful to prepare the strategy and has identified several stakes:

- A relative lack of digital maturity forces us to adapt our strategy to our actual resources. Digital literacy of key actors (political executives, civil servants, teachers, community and business leaders, …) must develop in order to deploy actions with a large scope and foster mobilisation.

- Several priorities/opportunities have been identified such as :

  ◦ Prioritize investment in the digitising of incoming data rather over the digitising of customer relationships. Human interaction has a strong tradition on the local level and some services can't benefit much from digitization anyway (care services, for example).

  ◦ Mobility and energy efficiency monitoring match both political interest and digital opportunities. For example, building a database of all managed buildings and their energy consumption.

- Crisis management can benefit from digital tools, for example when we need to send alerts to the population in real time (example of a recent drinking water problem in one village).

- Digitize citizen participation (more online public consultations along with real life meetings) and relationships with communities, clubs and associations (booking of municipal resources, online dialogue and exchange, group calendars, … ).

- Address the stakes of "rurbanisation" (losing our villages identities to urban development) in accompanying questions of urban planning and mobility and the transformation of public spaces.

With all its qualities, the diagnosis is only a first step. It is helpful to identify what's missing and how to fix it, and it sets some proposals as to where to go next. That's where a proper strategy is needed.

We believe the smart village strategy comes in adequate with regard to our state of digital maturity and help us « connect the dots » and build on what's already been drafted in the diagnosis. The strategy in complete form, form high level goals down to specific actions and deadlines, is necessary to address our needs, both in human and technical terms, and to unlock structured help and resources from regional stakeholders and agencies.

## 2.2.2 Links to higher level (local, regional, national, European) strategies

As a small municipality, we are dependent on larger strategies, mainly decided on the regional level (Walloon region) on strategic planning. However, those strategies are wide ranging and high level, so that their link to tangible projects on the ground are not always palpable.

Our plans are also linked to strategies on subregional levels in domains that, as a small community, we don't have the means to address adequately on our own. For example, the river defence program (CHRM, Contrat de Rivière Haute-Meuse) provides projects to face the Meuse River environmental challenges (ranging from fighting invasive species to raising public awareness in schools), tourism is federated around the Meuse valley and is managed over a large area covering the cities of Namur and Dinant.

Last but not least, BEP (intercommunal economic development bureau of the Province of Namur) provides guidance on strategical urban planning, smart city development, and citizen participation. More specifically, the « **Smartcity By BEP** » program offers digital diagnosis and roadmaps, exchange opportunities between villages and towns around the theme of Smart Territories, as well as helping them open up and be inspired by other territories such as study trips abroad. This program is also particularly connected with the Smart Region program fostered by the **Digital Wallonia** agency, playing and essential role between regional and local levels.

Profondeville's Smart Village Strategy can contribute to these programs. One of the most important contribution is the inspiration and lessons learned that pilot projects led in Profondeville can bring to other villages and small towns through relays such as BEP and Digital Wallonia.

### 2.2.3 Review of past and ongoing (flagship) projects and initiatives

In the past and up to now, we have had several "smart" initiatives.

**1. Online citizen participation**

Involving the population into public debates is a challenge. Public consultation, moreover online, is regarded as sensitive by most authorities. They fear that only the opposed parties will participate. They fear a lack of representativeness of the results. They fear that the debate will escape the expected boundaries and produce unpredictable results.

However, citizen engagement into public debate is essential, and when successful, it's extremely powerful. The authorities have led a few experiments in that intent. The most prominent is an **online public consultation** (2018) on the renovation of the village centre of Profondeville. The experience was led in partnership with BEP, who made their community platform g1idee.be at our disposal and moderated exchanges. The experience was fruitful, with relatively numerous and high quality contributions to the debate. Since then, we have adopted a tendency to multiply online consultations in a less formal way, generally we put documentation online and provide a feedback link. Such a solution has proven useful during Covid times when formal meetings are impossible.

References :

- https://www.bep-developpement-territorial.be/actualites/etude-reamenagement-coeur-de-profondeville/

- https://content.digitalwallonia.be/post/20190118104225/De%CC%81mocratie-participative-recueil-de-fiches-outils-pour-les-de%CC%81cideurs-locaux-UVCW_EE.pdf#page=27

**2. Cross-generational digital literacy workshops**

For several years now, the local authorities have set up **coaching sessions** for anyone who needs help with digital tools such as tablets, smartphones and computers. Each participant, typically, an older person, meets one-to-one with with a teenager or young adult who acts as a coach to develop digital skills and answer common questions during five one-hour sessions. Unfortunately, the workshops have currently been cancelled due to the pandemic.

References :

- https://www.profondeville.be/documents/bulletin-communal/2019_08_bc_profondeville_web.pdf#page=15

**3. Sentinel trucks**

An ongoing participation in the **"sentinel trucks"** project lead by BEP. Profondeville has partnered with the BEP's award-winning Sentinel trucks project, aiming at equipping domestic garbage collection trucks (which cover the entirety of the municipal road network every week) with multipurpose racks for environmental data collection, starting with a first use case gathering geolocalized data on mobile phone coverage and signal strength. While this use case is important to address "blank spots" in coverage, we intend to imagine other use cases allowing for new

sensors to be plugged on the racks. The project is financed by BEP and has received a grant from the Digital Wallonia agency.

References :

- https://www.bep-environnement.be/actualites/camions-sentinelles-le-bep-souhaite-collecter-des-donnees-via-ses-camions-poubelle/

- https://www.dhnet.be/regions/namur/le-projet-pilote-camions-sentinelles-du-bep-recompense-5d8a49d7f20d5a53cc078045

**4. Traffic and building efficiency data**

We have currently 6 mobile analysers that gather traffic data on sensitive spots. In 2019, we decided to plan and organize the traffic analyses. But the management, storage and use of this data is still rudimentary. We would like to set up a system where every bit of gathered traffic data could be stored and properly used for different means. Also, the whole data lifecycle could be implemented, up to making it public, so that everyone can see what the traffic is in their neighbourhood, how it compares to other places and how it evolves over time.

In another domain, we also gather data in energy and power efficiency for all of the town's buildings. Here again, this data is managed in rudimentary ways and could be much more fully exploited in its full lifecycle. We are in the process of adopting a platform (Future proofed cities carbon footprint management platform) into which the data is introduced and can be disclosed to the public but many steps in the chain need proper management.

## 2.3 Cooperation with other villages

Many public policies are managed on a supra-communal level: **police** is managed with 3 other towns covering 43.000 inhabitants, **fire department** is managed with 9 other towns covering 225.000 inhabitants. Most **utilities** (electricity, water, sewage, garbage collecting, …) are managed by global public companies on the regional level.

More specifically, the administration has several cooperations in the sector of **energy savings** where we share an agent half time with the adjacent municipality of Assesse. We also have a common project of setting up a home insulation program together with the neighbouring municipality of Floreffe.

# III.    KEY CHARACTERISTICS OF PROFONDEVILLE

## 3.1 Key characteristics of the village and rural area

**Closest towns:**

**Table 1: Closest town or city**

| Name of closest town or city | Population of town or city | Distance between village and town/ city |
|---|---|---|
| Namur | 110.000 | 15 km |
| Dinant | 13.500 | 17 km |

**Table 2: Key statistics**

| Indicator | Value | Latest year | Comments | Source of information |
|---|---|---|---|---|
| Population<br>*Out of which migrants*<br>*Out of which people with disabilities* | 12176<br>426<br>- | 2020 | Migrants are defined as non-nationals | Statbel<br>Statbel<br>No available data (cf. https://www.aviq.be/handicap/questions/infos_conseils/statistiques.html ) |
| Elderly dependency ratio % | 29,14% | | The ratio between the elderly population (aged 65 and over) and the working age population (aged 15-64) | Statbel |
| Unemployment rate % | 8,1% | 2018 | Percentage of unemployed aged 15 and over, divided by the labour force (those aged 15 and over) | Walstat.Iweps.be<br>https://walstat.iweps.be/walstat-catalogue.php?niveau_agre=C&theme_id=4&indicateur_id=235300&sel_niveau_catalogue=T&ordre=6 |
| Employment rate % | 66,1% | 2018 | Percentage of those employed who are aged 15 and over divided by the working age population (aged 15-64) | Walstat.Iweps.be<br>https://walstat.iweps.be/walstat-catalogue.php?niveau_agre=C&theme_id=4&indicateur_id=235300&sel_niveau_catalogue=T&ordre=6 |
| Participation rate % | 71,9% | 2018 | Percentage of the labour force aged 15 and over divided by the population of those aged 15 and over | Walstat.Iweps.be<br>https://walstat.iweps.be/walstat-catalogue.php?niveau_agre=C&theme_id=4&indicateur_id=235300&sel_niveau_catalogue=T&ordre=6 |
| **Age structure:** | | | | |
| Share of population aged 0-14 | 1947 | 2020 | | Statbel |

| | | | | |
|---|---|---|---|---|
| Share of population aged 15-59 | 7149 | 2020 | | Statbel |
| Share of population aged 60-65 | 772 | 2020 | | Statbel |
| Share of population aged 65+ | 2308 | 2020 | | Statbel |
| **Educational attainment:** | | | | |
| Share of workers with tertiary education | - | | | No available data |
| Share of workers with primary education | - | | | No available data |

## 3.2 Key challenges

Our villages are neither isolated nor suffer particular poverty. Demographics show a slight overrepresentation of elderly people compared to other areas.

Remoteness is not an issue, but we face the threat of losing our rural character and become suburbs of the nearby city of Namur. Urban pressure is high and makes housing expensive, along with threatening forest and farming land, and causing traffic issues. Local shops situated in the traditional village centers are rather fragile.

It is also an identity problem. People relate less and less to their local community, threatening village identities and making people less prompt to protect what makes our villages great places to live.

### 3.1.1. Ageing

Finding housing and mobility solutions so that the elderly can stay at home as long as possible is a great challenge. Due to our age pyramid, we face this challenge a little bit more than others.

Housing reformation, urban planning, mobility policies can make a difference, along with engaging in a dialogue with target groups at an early age so that they can anticipate a future loss of ability and take action (ie. transform their home or move to a smaller one) while they are healthy enough.

### 3.1.2 Urban pressure & mobility

With growing population due to land attractiveness, transportation becomes a challenge, some areas being poorly served by buses or trains. On the security level, increase in car traffic and average speed threatens the safety of cyclists and pedestrians while compromising the development of alternatives to personal cars.

Another threat is the growing truck traffic, damaging local roads and making the villages less safe.

We face a « last mile » problem with most commuting commodities (buses and trains) being in the valley and most residential areas being set on the heights. Helping people to provide a clear way to abandon their personal cars at the benefit of public transportation alternatives is a big challenge.

Other possible strategies involve the encouragement of teleworking, which has revealed a tangible alternative to commuting at the favour of the Covid-19 crisis.

### 3.1.3 Local identity & tourist attractiveness

Our villages and valley are sometimes considered hidden gems … but without flagship visit proposals, our assets are somehow hard to sell. We don't have castles or cathedrals, but our forests and country trails are perfect for mountain bike and running. The old Profondeville riverside, with its stone houses, small alleys and cliffs are rival to few on the Meuse river.

We have nationally popular spots for niche outdoor activities such as paragliding and speleology. We have a large offer of bed and breakfasts, pubs and restaurants. Yet, we have a hard time existing as a tourism offer. The challenge is particularly important with regard to the growing trend of close-distance tourism.

Another challenge is our hybrid identity. We are traditional villages, growing in population, and situated near a city. This mixed profile doesn't fit well with policy makers and strategical programs, either focussing on rural areas (which we aren't completely) or on urban challenges (which we don't fit either).

### 3.1.4 Citizen involvement in political life

People tend to both reject traditional forms of representative democracy and at the same time care more about their quality of life.

The challenge is to put people back at the centre of debates over our common future, with agile and efficient tools and approach, without falling into the usual traps of online consultation (scarce response rate, expression of extreme positions, absence of a real dialogue, … ).

### 3.1.5 Environmental issues (soil, water, etc.)

Like any other community on earth, our villages are committed to reduce their carbon footprint for the sake of the planet. With around 19 buildings in the town domain, energy efficiency becomes a challenge. With a proper approach, we can measure energy consumption and adapt to attain better performance, which is good for budget and for carbon footprint.

Moreover, private energy consumption must be addressed with adequate motivation and clear calls to action, such as insulation programs, mobility shift programs, and other plans for changing people's habits, including monitoring the impact of those actions over time.

As stated in the initiatives, we are in the process of setting up a carbon footprint monitoring dashboard (via the "FPC – Future-proofed cities" platform) that help set a pace for carbon emission reductions and also gather, stimulate and empower every actor.

Besides, our territory hosts one big quarry, the Tailfer quarry in Lustin, which activity has a negative impact on the environment and quality of life. This activity comes in conflicts with the quality-seeking development.

### 3.1.6 Broadband and digitization

The territory's broadband and mobile coverage is not yet complete. Some "not-spots" still need to be covered, especially in the small village or Arbre. Improving the mastery of digital tools by elected officials, members of local administration and citizens is also a challenge.

## 3.2 Main assets & opportunities

### 3.2.1 A great environment and quality of life

We have gorgeous landscapes, great nature and preserved stone house village hearts. Our territory is composed of 50% of farming land, and 27% of forest.

The municipal area provides excellent quality food and lodging offers.

This asset results positively on all development projects because it attracts quality-seekers and investors in all facets of development: housing, shopping, tourism …

This also results in a globally high-education and high-revenue population.

### 3.2.2 Social bonds

We have strong communities and people attached to their villages and environments and lively social life and events all year long. Yet, those communities result from ancient bonds and tradition and are threatened by the constant mixing of population. The latter, while a good and necessary process to keep social dynamics alive, induces that the old social bonds need to reinvent themselves, creating tensions.

### 3.2.3 Geography

The Meuse River serves as a strong identity marker and serves as an axis for mobility (buses, trains and riverside bicycle way) with direct connections to the nearby city of Namur and further to Brussels. All this makes our villages great places to live as commuters and nature lovers alike.

We also benefit the close proximity, in the neighbouring village of Mont-Godinne, of the largest hospital in the region, the CHU UCL Namur Hospital. It is both an asset for health services and for employment opportunities.

## 3.4 Key characteristics of the local community

The college and council are where most decisions are taken. The municipal civil servants are motivated and involved in the implementation of these. But municipal human resources remain limited. Apart from that, there's two advisory bodies. The **CCATM**, advisory council of urban planning and mobility, has a say in urban development and transportation orientations. And the **VADA** committee (Ville amie des Aînés, or elderly-friendly town) is an advisory board for all matters regarding the elderly population.

Community life is mainly organized around a dense network of **clubs and associations**. Most of them are oriented around special interests or activities (sports, music, cultural activities, hobbies, …), but the most important ones may well be the general interest "village committees". Those

committees are usually responsible for organizing yearly village feasts, and some have evolved to other similar goals such as setting up youth groups, animating the village life all year long, organizing solidarity and dialogue among inhabitants, and even financing new infrastructures such as recreation areas.

Although there's a vivid community life, most groups and association aren't policy oriented and focus on local animation, sports and recreative activities. However, when a challenge arises, those village groups can be used as social networks for communication, awareness raising and mobilization. There's a great potential to explore how those strong social networks can help improve citizens engagement into their village's development.

Our "local champions" are engaged in sports clubs, youth groups, churches, cultural or leisure associations, or simply village animation. Quite a few end up in the Town council.

Most inhabitants take pride in the liveliness of the social interactions and community life of their village. However, over time, competing social networks arise due to the arrival of new population that aren't village natives. We could then say that the local champions have fragmented audiences.

Recently, we've seen the rise of transition people abiding to the slow living principles and challenging traditional rural development on housing permits, small-scale agri-forestry and active mobility, among others. Transition people live by strong ethical standards that can foster specific actions in the sector of carbon footprint reduction.

Village natives and newcomers don't always share the same connections, appreciations and strategical visions of their village and it's sometimes hard to get along. Also, all 6 villages aren't equal regarding social life. Some of them have a strong community, while others have mixed identities and more difficulties in creating a richer village life. There's a stake in keeping a minimal sense of belonging and togetherness in order to structure citizen engagement and participation to reinforce local democracy.

## 3.5 SWOT Analysis

**Table 3: SWOT analysis**

| STRENGTHS | WEAKNESSES |
|---|---|
| • Strong communities and social cohesion<br>• Global population wealth and education level<br>• Territory attractiveness<br>• Good lodging and food offers<br>• Good basic services (schools, health services, …)<br>• Civil servants motivation and involvement | • Little or no culture of technology within the local administration<br>• Mobility issues<br>• Aging population<br>• Local shops are rather fragile<br>• Civil servants overbooking & limited resources<br>• Insufficient broadband and mobile coverage in some areas |
| OPPORTUNITIES | THREATS |
| • A return to short-distance tourism is trending<br>• Our villages are at the crossroads of growing mobility axes (Namur-Dinant, Namur-Mettet, … )<br>• Emphasis on quality in most aspects of territorial development (commerce, housing, tourism… )<br>• Good support by regional actors | • Progressive dislocation of village social structures<br>• Urban & mobility pressure<br>• Primary sector industry (quarries) with heavy impact on environment and quality of life<br>• Raising truck traffic with high impact on road quality<br>• Hybrid profile (not completely rural, not so urban), resulting in a lack of attention from policymakers and financial programs<br>• Proximity of an influential city with a risk of negative externalities (quarries, truck transportation, … ) |

# IV.    INTERVENTION LOGIC

## 4.1 Overall objective

Our overall objective is to set the conditions for developing smart services and projects in a small context such as ours. We need to work on the foundations (raising awareness, evolving processes), along with obtaining small but inspiring results, that make sense for both for our own population, and for other villages.

The modesty will also be sought in the solutions : in order to be replicable, our solutions must be low-resources and low-maintenance. Technology won't be the driving force in our strategy. Rather, the strategy will feed on identified needs, and it will use technology properly to address those needs.

## 4.2 Specific & operational objectives in response to SWOT

### Specific objective 1: Define and implement a data management strategy

In recent years, our local administration has been collecting and treating a growing volume of first hand "data" in a vast number of areas: budget and finance, traffic analysis, energy consumption, schools, population, urban planning, etc.

However, our executives and our administration aren't generally aware of the special nature of data. Data is both a resource to maintain, to structure, to store, to retrieve, to cross, to protect, but also, when privacy protection conditions are met, a great source of knowledge to use internally and to publish for others to use as open data.

This objective aims at raising awareness around the importance of data within the local administration and towards the population. We can then build more easily upon this knowledge and awareness.

### Operational objective 1.1: Raise competence in data management and open data

Identify key roles in the local administration who could take up responsibility in data management. Use pilot initiatives to promote data management benefits.

Goal : By the end of 2021, 3 key people have been trained in data management, including one manager. By mid-2022, 10 additional agents have attended an introductory workshop on data management.

### Operational objective 1.2: Deploy pilot projects

Start early with flagship projects and quick wins, with good visibility, on small scale but through the largest possible cycle (gathering > storage > treatment > transparency).

Goal : 2 projects in place by mid 2022

**Operational objective 1.3: Implement the plan in most areas**

Use external consultancy and internal key resources to elaborate a master data management plan and promote it. Use the pilot projects conclusions in the process. Focus on reusability by others.

Goal : By the end of 2022, the MDM (Master Data Management) plan is adopted

## Specific objective 2: Develop online involvement of citizens

After a few experiments with online participation, we feel the need to offer our population more opportunities to engage in their village's life. Access to those opportunities online has attracted more and more interest with the Covid-19 crisis.

For example, we held a town council through a videoconference, with live broadcast on Youtube. The broadcast has attracted around 60 viewers while population attendance at physical town councils generally don't exceed 15 people.

**Operational objective 2.1: Develop online public services**

Develop online self service in the most possible areas of public procedures. Develop a communication strategy to encourage all who are able to do so, to use preferably online services.

Goal : by end 2021, an online desk with user profile is set up and website is renewed. By end of 2023, at least 5 procedures are processed completely online.

**Operational objective 2.2: Develop online participation**

Continue and develop online consultations, meetings and feedback gatherings on a large number of subjects. Develop a communication strategy to encourage all who are able to do so, to use preferably online channels. Invest in content on the communal website in order to create visiting habits. Develop channels on social networks in order to promote the online content.

Goal : by end 2022, public consultations on housing and building permits are put online, and our website has a public consultation gathering systems that allows for easy deployment of consultations ; all the consultations are held online (along with physical meetings when needed or required by the law).

**Operational objective 2.3: Promote technological literacy among population**

Continue and develop technological literacy promotion towards key population groups such as the elderly and civil servants. Hold sessions to help people use smartphones, tablets and computers.

Goal : by end 2022, 100 people have been involved in training sessions.

## Specific objective 3: Promote our territories online

To address the visibility and identity problems of our territories, we need to both be more efficient in the way we promote them, and be more inventive and exploratory to find new, "smart" ways in order to detach our offer from the global landscape.

### Operational objective 3.1: Develop online syndication of own tourism offer

Build bridges between information systems. Rationalize our databases on tourism offerings (food, lodging, activities, events) and make them automatically available to as many promotion channels as possible.

Goal : by end 2021, the key actions have been identified and agreed upon with regional promotion partners ; by end 2022, the syndication link is effective with at least one (main) promotional partner.

### Operational objective 3.2: Innovate in online promotion strategy

Define new ways to promote using modern technologies. Assess the feasibility of those new ways and make a plan to deploy them.

Goal : by end-2021, brainstorming and first feasibility analysis have been done ; by end-2022, the strategy has been adopted.

## Specific objective 4: Offer better infrastructure

In some areas, broadband and or mobile infrastructure is insufficient. We aim at providing sufficient access to networks in order to deploy online services and reinforce territory attractiveness, while remaining cautious about the potential impact of the exponential use of airwave transmission for data.

### Operational objective 4.1: Perform coverage analysis through the sentinel trucks

Use the sentinel trucks project in order to identify the coverage quality of the whole territory.

Goal : by end of 2021, we have a clear picture of mobile and data coverage in every street.

### Operational objective 4.2: Reinforce network and infrastructures

A lack of broadband service has been identified in the village of Arbre and, potentially, other small areas lack high-speed cable connection. Network also means better wi-fi coverage in public infrastructures through the WIFI4EU program.

Goal : by end of 2022, the network in Arbre has been upgraded to reach at least 50mbits/s in every home ; by end of 2021, at least 10 wi-fi access points have been connected in public places.

**Table 4: Setting objectives in response to SWOT**

| Specific objectives | Operational objectives | Challenges & threats | Strengths & Opportunities |
|---|---|---|---|
| 1: Define and implement a data management strategy | 1.1: Raise competence in data management and open data | • Civil servants overbooking & limited resources | • Civil servants motivation and involvement<br>• No culture of technology within the local administration |
| 1: Define and implement a data management strategy | 1.2: Deploy pilot projects | • Civil servants overbooking & limited resources<br>• Mobility issues<br>• Urban & mobility pressure<br>• Primary sector industry (quarries) with heavy impact on environment and quality of life<br>• Raising truck traffic with high impact on road quality | • Civil servants motivation and involvement<br>• No culture of technology within the local administration |
| 1: Define and implement a data management strategy | 1.3: Implement the plan in most areas | • Civil servants overbooking & limited resources | • Civil servants motivation and involvement<br>• No culture of technology within the local administration |
| 2: Develop online involvement of citizens | 2.1: Develop online public services | • Ageing population<br>• Progressive dislocation of village social structures<br>• Insufficient broadband and mobile coverage is some areas | • Strong communities and social cohesion<br>• Global population wealth and education level |
| 2: Develop online involvement of citizens | 2.2: Develop online participation | • Ageing population<br>• Progressive dislocation of village social structures<br>• Insufficient broadband and mobile coverage is some areas | • Strong communities and social cohesion<br>• Global population wealth and education level |

| Specific objectives | Operational objectives | Challenges & threats | Strengths & Opportunities |
|---|---|---|---|
| 2: Develop online involvement of citizens | 2.3: Promote technological literacy among population | • Ageing population | • Strong communities and social cohesion<br>• Global population wealth and education level |
| 3: Promote our territories online | 3.1: Develop online syndication of own tourism offer | • Local shops are rather fragile<br>• Hybrid profile (not completely rural, not so urban), resulting in a lack of attention from policymakers and financial programs<br>• Proximity of an influential city with a risk of negative externalities (quarries, truck transportation, … ) | • Territory attractiveness<br>• Good lodging and food offers<br>• A return to short-distance tourism is trending<br>• Emphasis on quality in most aspects of territorial development (commerce, housing, tourism…) |
| 3: Promote our territories online | 3.2: Innovate in online promotion strategy | • Local shops are rather fragile<br>• Hybrid profile (not completely rural, not so urban), resulting in a lack of attention from policymakers and financial programs<br>• Proximity of an influential city with a risk of negative externalities (quarries, truck transportation, … ) | • Territory attractiveness<br>• Strong communities and social cohesion<br>• Good lodging and food offers<br>• A return to short-distance tourism is trending<br>• Emphasis on quality in most aspects of territorial development (commerce, housing, tourism…) |
| 4: Offer better infrastructure | 4.1: Perform coverage analysis through the sentinel trucks | • Insufficient broadband and mobile coverage in some areas | • Good support by regional actors |
| 4: Offer better infrastructure | 4.2: Reinforce network and infrastructures | • Insufficient broadband and mobile coverage in some areas | • Good support by regional actors |

## 4.3 Smart solutions: actions, outputs and results

**Table 5: Intervention logic: objectives, activities, expected results and outputs**

| Specific/ operational objectives | Activities planned or taken | Expected results | Expected outputs |
|---|---|---|---|
| **SO1: Define and implement a data management strategy** | | | |
| **1.1.** Raise competence in data management and open data | Activity 1.1.1. Specific data management training for 3 agents | • Awareness and competence of administrative agents and management has raised | • Training courses<br>• Agents trained in data management |
| | Activity 1.1.2. General data management introduction for 10 agents | | • Introduction sessions<br>• 10 civil servants sensitized/informed on data management |
| **1.2.** Deploy pilot projects | Activity 1.2.1 : Traffic analysis data | • Create a database and a script to feed the data into it ; publish the data in an open data platform & make it available on a map | • Functional database/software designed and developed in close collaboration with the mobility department |
| | Activity 1.2.2 : Communal budget and finance data | • Create a database and a script to feed the data into it ; publish the data in an open data platform & | • Functional software designed and developed in close collaboration with the finance department |

| Specific/ operational objectives | Activities planned or taken | Expected results | Expected outputs |
|---|---|---|---|
| | | make it available on a map | |
| **1.3.** Implement the plan in most areas | Activity 1.3.1 : Define master data management program | • Business process analysis in close collaboration with the departments and software providers | • Functional master data management program |
| | Activity 1.3.2 : Deploy master data management program | • The MDM applied to the defined domains | |
| **SO2: Develop online involvement of citizens** | | | |
| **2.1.** Develop online public services | Activity 2.1.1 : Develop online self service in the most possible areas of public procedures. | • Most procedures are available online if possible<br>• Software acquisition and configuration<br>• Business process refactoring | • Renewed municipal public website |
| | Activity 2.1.2 : Develop a communication strategy to encourage all who are able to do so, to use preferably online services. | • Online services are used preferably by citizens | • Communication campaign |
| **2.2.** Develop online participation | Activity 2.2.1 : Continue and develop online consultations, meetings and feedback gatherings on a large number | • Online public participation is generalized along with other forms of participation and | • Business process refactoring |

| Specific/ operational objectives | Activities planned or taken | Expected results | Expected outputs |
|---|---|---|---|
| | of subjects. | consultation | |
| | Activity 2.2.2 : Develop a communication strategy to encourage all who are able to do so, to use preferably online channels. | • Citizens develop the habit of participating to online consultations | • Communication strategy and campaign |
| **2.3.** Promote technological literacy among population | Activity 2.3.1 : Continue technological literacy programs | • Raise digital skills of citizens | • Cross-generation peer-training sessions |
| **SO3: Promote our territories online** | | | |
| **3.1.** Develop online syndication of own tourism offer | Activity 3.1.1 : Renew tourism section of communal website and tourism offer database | • Own promotion tools are up to date | • Website upgrade and redesign<br>• Database cleaning and process design to maintain it |
| | Activity 3.1.2 : Develop automated syndication tools to export tourism content to other databases and online tools | • Own promotional content is automatically shared with others and maintained up to date | • Partners identification (regional tourism promotion offices)<br>• Interoperability definition<br>• Development and setup |
| **3.2.** Innovate in online promotion strategy | Activity 3.2.1 : Brainstorming and first feasibility analysis | • A list of innovative ideas to promote our territory | • Brainstorming sessions |
| | Activity 3.2.2 : Online strategy implementation | • A strategy in place and running | • Planning, fund-raising |

| Specific/ operational objectives | Activities planned or taken | Expected results | Expected outputs |
|---|---|---|---|
| **SO4: Offer better infrastructure** | | | |
| **4.1.** Perform coverage analysis through the sentinel trucks | Activity 4.1.1 : Launch sentinel trucks | • Data is gathered on a weekly basis | • Automated gathering of signal coverage data |
| | Activity 4.1.2 : Data analysis | • Data is shared and analysed | • Debriefing and analysis meetings with mobile operators |
| **4.2.** Reinforce network and infrastructures | Activity 4.2.1 : Upgrade weak spots in cable broadband coverage | • Broadband quality of internet cable connections available to every home | • Telecom company upgrade<br>• Feedback and improvement meetings with telecom operators |
| | Activity 4.2.2 : Provide wifi hotspots in local public infrastructures | • All relevant public access buildings offer internet access through wi-fi | • Installation of wi-fi access points in public buildings<br>• Connectivity upgrades where necessary |

**Table 6: Planning actions**

| Actions planned or taken | Timeline T = Trimester/three month period | Necessary human capacity | Necessary technical capacity | Financial resources needed Lower bid | Financial resources needed Higher bid |
|---|---|---|---|---|---|
| Activity 1.1.1. Specific data management training for 3 agents | T1-2021 – T3-2021 | External training provider | Actual data sets as training support | 1 000,00 € | 5 000,00 € |
| Activity 1.1.2. General data management introduction for 10 agents | T4-2021 – T1-2022 | External training provider or trained internal agents | Actual data sets as training support | 1 000,00 € | 5 000,00 € |
| Activity 1.2.1 : Traffic analysis data | T3-2021 – T4-2021 | Analyst-developer 20m/d Business analyst 5m/d 1 internal agent 10m/d Regional open-data server support | Server capacity | 15 000,00 € | 25 000,00 € |
| Activity 1.2.2 : Communal budget and finance data | T1-2022 – T2-2022 | Analyst-developer 10m/d Business analyst 5m/d 1 internal agent 5m/d Regional open-data server support | Server capacity | 10 000,00 € | 15 000,00 € |
| Activity 1.3.1 : Define master data management program | T3-2022 – T4-2022 | Consultancy expert 10m/d Internal agents available for workshops and validation 10m/d | | 5 000,00 € | 10 000,00 € |
| Activity 1.3.2 : Deploy master data management program | T1-2023 and going | Internal resources, management | Server capacity | 0,00 € | 0,00 € |

| Actions planned or taken | Timeline T = Trimester/three month period | Necessary human capacity | Necessary technical capacity | Financial resources needed Lower bid | Financial resources needed Higher bid |
|---|---|---|---|---|---|
| Activity 2.1.1 : Develop online self service in the most possible areas of public procedures. | T4-2020 – T4-2021 | Internal resources, webdesign, CMS configuration, process design (to integrate online procedures with existing processes) | Server capacity | 6 000,00 € | 15 000,00 € |
| Activity 2.1.2 : Develop a communication strategy to encourage all who are able to do so, to use preferably online services. | T2-2021 – T4-2022 | Internal resources | | 500,00 € | 2 000,00 € |
| Activity 2.2.1 : Continue and develop online consultations, meetings and feedback gatherings on a large number of subjects. | T1-2022 – T4-2022 | CMS configuration, internal resources | Server capacity | 0,00 € | 2 000,00 € |
| Activity 2.2.2 : Develop a communication strategy to encourage all who are able to do so, to use preferably online channels. | T3-2022 – T4-2023 | Internal resources | | 500,00 € | 2 000,00 € |
| Activity 2.3.1 : Continue technological literacy programs | Ongoing (cost per year) | Internal resources | Meeting rooms | 3 000,00 € | 5 000,00 € |
| Activity 3.1.1 : Renew tourism section of communal website and tourism offer database | T1-2022 – T4-2022 | CMS configuration, internal resources, webdesign | Server capacity | 500,00 € | 2 000,00 € |

| Actions planned or taken | Timeline T = Trimester/three month period | Necessary human capacity | Necessary technical capacity | Financial resources needed Lower bid | Financial resources needed Higher bid |
|---|---|---|---|---|---|
| Activity 3.1.2 : Develop automated syndication tools to export tourism content to other databases and online tools | T1-2021 – T3-2022 | Regional actors of tourism promotion Analyst-programmer 10m/d | Server capacity | 4 000,00 € | 10 000,00 € |
| Activity 3.2.1 : Brainstorming and first feasibility analysis | T3-2021-T4-2021 | Internal resources External consultancy or university expert 3m/d | | 1 500,00 € | 3 000,00 € |
| Activity 3.2.2 : Online strategy implementation | T1-2022 – T4-2022 | Internal resources External consultancy or university expert 10m/d | | 3 000,00 € | 8 000,00 € |
| Activity 4.1.1 : Launch sentinel trucks | T1-2021 – T3-2021 | BEP experts | Garbage collecting trucks, data collection hardware and software | 0,00 € | 0,00 € |
| Activity 4.1.2 : Data analysis | T2-2021 – T4-2021 | BEP experts Mobile telecom companies Internal resources | | | |
| Activity 4.2.1 : Upgrade weak spots in cable broadband coverage | T1-2021 – T4-2021 | Telecom company & other utilities BEP experts « Digital Wallonia Connect » experts | | 0,00 € | 0,00 € |
| Activity 4.2.2 : Provide wifi hotspots in local public infrastructures | T1-2021 – T4-2021 | External contractor on WIFI4EU voucher | Internet connection to public buildings | 15 000,00 € | 20 000,00 € |
| **Entire Strategy** | **T4-2020 – T4-2023** | | | **66 000,00 €** | **129 000,00 €** |

# V.  MANAGEMENT AND MONITORING

## 5.1 Management

The smart village process has been initiated by one of the deputy mayors, with strong support of regional coordinator BEP. One of the main stakes is to create commitment within the administration by forming a **program team**. Acting on the operational level, the program team will be responsible for implementing the strategy and the **program leader** position will be held by a civil servant in the middle or top management.

Very close to the program team will be the **program sponsor**. One of the deputy mayors or the mayor will hold that role of addressing any issue encountered in the program and discussing with the college for securing budget and resources.

A **steering committee** will validate the planning and deliverables of the program and will review the indicators. It will have the power to amend the strategy and make decisions on program reorientations. It will be composed of:

- The program leader

- The program sponsor & other college members

- External experts from BEP, ADN and potentially other institutions involved (telecom operators, digital government representatives, …)

- Representatives of the local community, chosen for their knowledge of smart development and/or rural development.

We are still undecided as to whether this formula is sufficient to involve the population. One additional option consists of setting up a **Smart village advisory board**, composed exclusively of citizen chosen on a voluntary basis. Such a board would have a twofold benefit : it would bring the singular experience of local experts into the program, and it would help debate and acceptance around the program within the larger population.

The financial aspects of the program are also critical. Profondeville has adopted a strategy that is rather low-cost in order to be reproduced elsewhere in villages and small towns.

The program relies for most part on external budgets. We are in discussion with several actors on regional level to help us finance the most expensive actions (tools for data management, for example). Of course, gaining implementation support from the Smart Rural 21 program would help the fund-raising and raise the chances of getting quality outcomes.

## 5.2 Monitoring

Monitoring will be based on objectives and actions.

For each objective, **performance indicators** will be set (for example, the number of procedures completed online by citizens, what percentage of the households have access to broadband) and for each action, **result indicators** will be set (for example, how many procedures have been made available online to citizens, how many actions have been taken to upgrade the broadband network).

The indicators will need to be low-maintenance. The effort to report must be proportionate to the stakes.

4 times a year, the steering committee will hold a session and review the indicators as well as reviewing the progression of the program, and address any issue accordingly. For urgent matters, the program sponsor will be able to make quick calls that will need to be debriefed at the next steering committee.

# VI. STAKEHOLDER ENGAGEMENT IN STRATEGY DEVELOPMENT

## 6.1 Stakeholder engagement in needs assessment

The needs assessment has been performed by the program sponsor, with the involvement of 2-3 key stakeholders which have initiated the program. BEP and Ocalia Smart City experts, as well as one representative of the administration, also involved in the digital diagnosis and roadmap, have participated in the needs' assessment.

## 6.2 Stakeholder engagement in strategy development

The program has been discussed within a group of external experts including our national Smart Rural support expert from the Walloon Rural Development network (Réseau wallon de Développement Rural), Smart City by BEP and Ocalia experts, as well as a Digital Wallonia representative. The strategy has mainly been written by the program sponsor.

"Alone you go faster, together you go further." The low level of engagement outside the close circle of experts is a weakness we need to work on. We plan to communicate on the strategy and put it online, on a specific section of the municipal website, for public consultation.

The consultation will hopefully generate interest within the community (local IT professionals, aware individuals such as retired engineers, several interest groups, …). Once identified, the interested parties could form the core of the Smart Village advisory board.

## 6.3 Key channels of communication and awareness raising among citizens

Citizens have been informed through several actions, including a press briefing made by BEP on behalf of Profondeville. The press coverage (interviews) has attracted some attention and was even covered by the national press agency Belga. The press campaign has been accompanied by direct communication through communal channels such as the town's bulletin and website.

- BEP communication:

  ◦ https://www.bep-developpement-territorial.be/actualites/profondeville-smart-village-europeen/

- Press coverage:

  ◦ https://www.dhnet.be/regions/namur/la-commune-de-profondeville-a-ete-elue-smart-village-europeen-5f4382c37b50a677fb1143e7

  ◦ https://www.levif.be/actualite/belgique/profondeville-seule-commune-de-belgique-elue-smart-village-europeen/article-news-1324097.html

  ◦ https://www.lavenir.net/cnt/dmf20200826_01502117/la-commune-elue-smart-village-europeen

- Communal channels:

  ◦ https://www.profondeville.be/actualites/smart-city/profondeville-commune-smart

  ◦ https://www.profondeville.be/documents/bulletin-communal/bc-162.pdf#page=9

We plan to continue to use those channels in order to keep the public informed. Two additional actions are planned at this stage:

- A presence on social networks to help push communal information towards social networks users

- The production of visuals illustrating the strategy in a graphical form to help the general public grasp its content.

## 6.4 Planned actions to mobilise stakeholders

As a local actor, we rely on bigger actors to attract leverage. BEP and ADN – Digital Wallonia experts are ideally suited to engage in dialogue with government officials for funding, or with telecom companies for investments.

A section on our website will be dedicated to the program and the sponsor will also report to the town council once a year informing interested parties of the progression of the strategy.