# TOOL KIT PSS

Development of innovative business models for product-service systems in an urban context of sustainable transition

NEW ECONOMIC MODELS

FOR A SUSTAINABLE CITY?

WHAT NEW PRODUCTS AND SERVICES IN BRUSSELS?

#### Development of innovative PSS business models in an urban context of sustainable transition

#### **Publication director**

Patrick Van Den Abeele (Brussels Environment)

#### Authors

François Jégou and Christophe Gouache (Strategic Design Scenarios) Erwan Mouazan and Anne-Sophie Ansenne (Ecores/Groupe One), Joëlle Libermann (Égérie Research)

Patrick Van Den Abeele (Brussels Environment)

#### Published by

**IBGEBIM** 

Avenue Gulledelle, 100

B-1200 Brussels

#### **Sommaire**

Urban context	p :
Introduction to the methodology	p (
Key factors in the success of the approach	p s
A territorial and individualised approach	p 10
A creative multidisciplinary team	p 1
An ecosystem of benevolent players	p 1
A method of involvement open to the creative labs process	p 10
An ecology of creative processes	p 18
Promising solutions in terms of local sustainable development	p 20
Phase 1: Drawing up a territorial assessment	p 2
Phase 2: From identification of the challenges to development of	p 2
opportunities	
Phase 3: Non-technological monitoring	р 3
Phase 4: Creative labs, co-creation of PSS solutions	р 3
A / Running the workshop	р 38
Step 1: Warming up	p 39
Step 2: Generating new solutions	p 40
Step 3: Developing the solutions	p 4
Step 4: Identifying the levers, obstacles and players	p 4
B / Results of the generation phase	p 40
Phase 5: Reality check: formalising the business models and	p 4
supporting the creation of activities	
The tools	p 5
Conclusion	p 50

#### An urban context



Today, more than two thirds of the population of Europe live in urban areas. It is often in the cities that there is a concentration of social inequality problems (unemployment, segregation, poverty) and environmental harms (air pollution, congestion, etc.). Paradoxically, although the cities are places where environmental and socioeconomic problems emerge, they are also centres of innovation, creativity and technologies, at the heart of which lies the solution to these problems.

Bolstering urban resilience must be based on a global approach to social, environmental and economic problems. The future of the city will be judged according to its capacity to rethink economic models which are more circular and resource-efficient and which generate local jobs. The functional economy and Product-Service Systems constitute one of the avenues of investigation for bolstering the resilience of the cities of tomorrow.

General outline of the • methodology

## Introduction to the methodology

As part of the TURAS project, a methodological Toolkit to facilitate the development of innovative Business Models in a sustainable city context has been developed and tested. This methodology is presented in the form of various key phases (Phases 1 to 5 represented in the diagram below).

The particular feature of the Toolkit is that it offers a combination of a territorial approach and individual business support.

In the methodological process, the first step (Phases 1 to 4) ensures synergy and complementarity between the territory and the users (public authorities, non-profit making organisations, residents and businesses) through the co-creation of innovative business models.

The second step (Phase 5), meanwhile, provides individual support for the business in order to develop the idea of the innovative business into an appropriate economic model, after, in particular, being confronted with the real world via the "reality check".

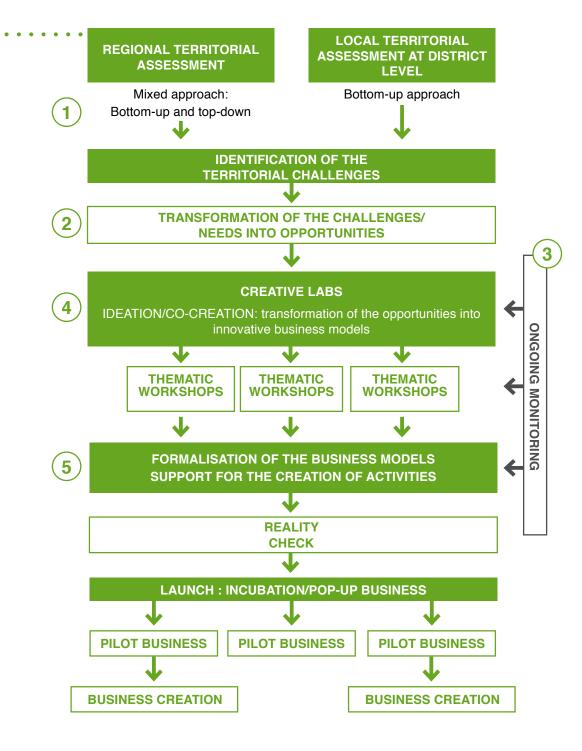
This methodological toolkit contains some elements specific to the context of the project in the Brussels-Capital Region and some key elements, important points not to be missed, as follows:

The specific initiative established in the socio-economic and institutional context of the Brussels-Capital Region is illustrated by the logo of the region, opposite:



The points requiring methodological attention are shown by the symbol opposite:







# Key factors in the success of the approach

# A territorial and individualised approach

The methodology proposed is structured around an approach which is firstly territorial then followed by an individualised approach towards the project owners and businesses.

The territorial approach provides:

- entrenchment in a local context, making it possible to create solutions which meet the needs and expectations of the territory's users (public authorities, residents, businesses, associations, etc.)
- a pooling effect (collective coaching, peer-to-peer exchange of experience, grouped dissemination, etc.) and a synergy effect (hybridisation between innovations, communication on all the initiatives in addition to individual communication, etc.).

The owner/initiator of the process can be a territorial authority (region, municipality, town, etc.) or a structure which represents businesses (e.g. chamber of commerce). All the ideas generated must feed a "pool of ideas". In addition to the ideas

exploited (meeting with an owner, suitable marketing window, etc.), all the ideas must be retained (open collaborative platform), firstly, to stimulate the territorial process and, secondly, to encounter other opportunities for them to be put into practice (new owners, marketing window).

The individualised "reality check" tools are the opposite of traditional consultancy/ tutoring: they are stimulating (owners authorised to carry out a participative co-design development: consultants as process facilitators) and directed towards experimentation (rapid simulation of solutions; full-scale trials; modelling used as the first stage of launch, etc.).





## A multi-disciplinary creative team

The project must be supervised by a **multidisciplinary team**. As a minimum, 3 key profiles must be guaranteed:

- a user/market point of view
- management/business expertise
- a creative/design attitude.

In the case of the experimentation in Brussels, the team was composed of experts in sustainable development and sustainable entrepreneurship (Ecores/Group One), designers (Strategic Design Scenarios), experts in management and marketing (Egérie Research), and the local public players (IBGE Bruxelles Environnement).

# An ecosystem of benevolent players

In addition to the stakeholders involved in the project (local authorities/business representatives and project team), it is important to set up a "benevolent ecosystem" made up of a wider circle of indirectly involved players (owners of other related projects, indirect stakeholders, public or private financial backers, etc.) capable of directing, advising, synergising, disseminating and communicating the project under development.



Start of workshop



# A method of involvement open to the creative labs process

The participants in an innovation process are not always easy to determine at first sight. There is no typical profile.

A certain amount of "letting go" and a partial mode of selforganisation similar to the organisation of deliberative processes must be adopted (leaving it to the participants to invite other participants; argumentative process for validating the participants, spontaneous motivation and interest, etc.)

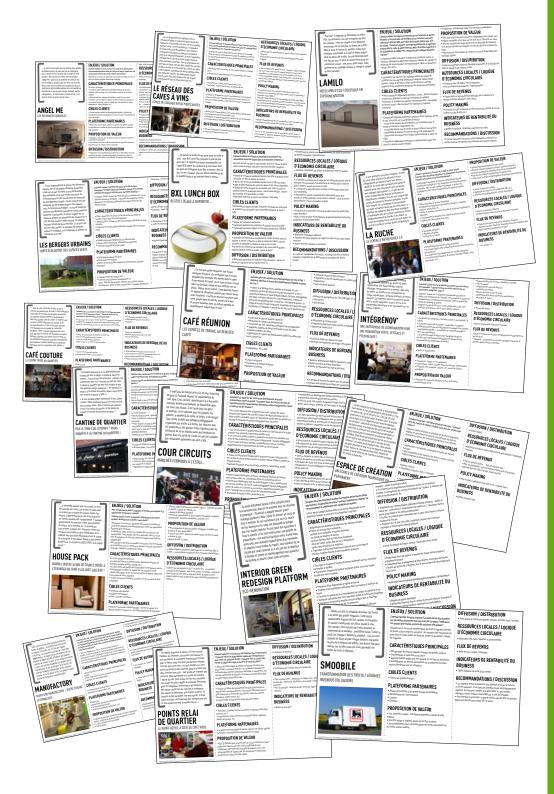
The notion of participant assumes that the parties to be involved must, in principle, be affected (for example, an interested user, who feels affected, will be preferred to an average person).

# An ecology of creative processes

A creative process centred on PSS is bound to lead to a range of solutions not all of which will be PSS in the strict sense: the good ideas should be developed in preference to those that meet the specifications.

In addition to the definitions/ categories of PSS, the objective is to identify/develop the business models which are not based on individual ownership but which, instead, highlight access, alternative use, sharing, etc. and which are more concerned about their development potential than their specific nature.





# Promising solutions in terms of local sustainable development

It is difficult at the 'reality check' stage, and even more so at the 'creative labs' stage, to determine whether a solution does in fact present a benefit in terms of sustainable development.

In the 'positive evaluation' spirit of the 'creative debugging' process, the objective will be to assess the extent to which a solution is 'promising in terms of sustainable development', in other words to list/evaluate the positive/negative effects caused in terms of impact reduction, indirect effects and potential rebound effects, etc.

Likewise, an assessment will be made of the potential for relocalisation through the formal economic activity (business/job creation) and the informal activity brought about (stimulation of the territory; civic participation; quality of life).

The ideas/projects that resist this initial filter (but without it representing a certainty at this stage) will be retained and the others will be eliminated.

# Phase 1: drawing up a territorial assessment

The development of Product-Service System (PSS) solutions in an urban context must, above all, be able to meet a series of strategic challenges linked to the development of a more sustainable city.

Unlike other approaches to developing new business models for services, centred on the generation of a new offer of products and services for a given business, the methodology developed is based on an assessment of the territory.

As a result of the assessment, a series of key questions can be answered:

What pressures (demographic, economic, social, environmental) influence the development of my territory?

What priority challenges must my territory face up to in a dynamic context in order to fit into a sustainable city vision?

By undertaking an assessment of the territory, it is possible to identify the challenges which the PSS will be able to meet.

At territory level, a variety of assessment exercises are generally carried out on a regular basis. These assessments may fit into a TOP-DOWN approach (led by the public authorities) or else a BOTTOM-UP approach (emanating from the experience of the city's users: residents, associations, businesses, etc.). It is the linking of these two approaches that will be able to provide a complete assessment, starting firstly with the civic point of view and, secondly, with the

strategic reviews led by politicians and the public authorities.

It is important, within one's territorial context, to identify which assessment(s) should be relied on in order to identify the challenges that can be met by the PSS model. Sometimes, there is no satisfactory assessment so the existing data must be supplemented by a civic consultation process, for example, or validation by the public authorities.

#### Examples of

#### **TOP-DOWN** assessments

- Territorial climate plan
- Territorial carbon footprint
- Nature plan
- Mobility plan



#### **BOTTOM-UP** assessments

- "Sustainable neighbourhood contracts" (participative approach)
- etc.

In the context of the Brussels-Capital Region (BCR), several assessments have been carried out in recent years. The context of the BCR is, therefore, specific since two types of interconnected assessments, linking TOP DOWN and BOTTOM UP approaches, have been carried out recently:

- The Regional Sustainable Development Plan
- The Employment-Environment Alliances

Using these tools for analysis, the objective is to identify a set of strategic areas which could incorporate the functional economy model in an interesting way and facilitate the transition to a sustainable and resilient city. Further information on these two tools is available via the following links:

http://urbanisme.irisnet.be/lesreglesdujeu/les-plans-developpement/le-prdd

http://www.aee-rbc.be

# Phase 2: from identification of the challenges to development of opportunities

Using the mixed (TOP DOWN and BOTTOM UP) territorial assessment tools for analysis, the objective is therefore to identify a set of strategic challenges which can integrate the functional economy model in an appropriate way and facilitate the transition to a sustainable and resilient city.

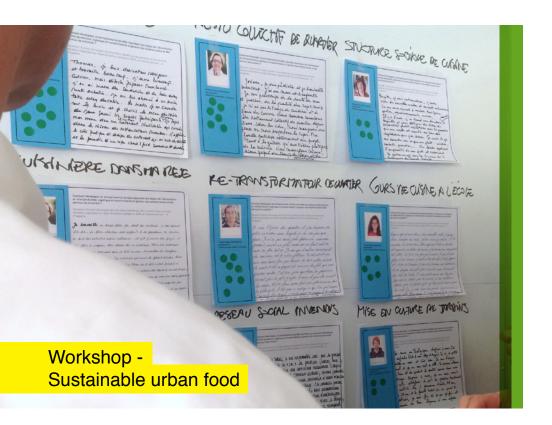
At this stage, no systematic model for identifying the challenges faced by a city has been defined. The process depends on the specific functioning of each territory. Processes which combine a BOTTOM-UP and a TOP-DOWN approach are appropriate in this context. The PSS solutions must be linked to the territory, whatever tool is used to make the link.



It is necessary to identify the key themes that emerge from the assessments (e.g.: mobility, food, urban density, etc.) and that are relevant for a transition to PSS (service logic).

Within each topic, some strategic challenges must be formulated in relation to what the functional economy model could provide and on the basis of some key questions:

- What new services are needed to meet the requirements of a district?
- From the perspective of the local economic fabric: how can I adapt my service offer to meet the shifting challenges of the territory?





As part of this project, in the Brussels context, the challenges BRU) identified per topic are presented below and have been developed as opportunities for the emergence of PSS.

#### 1. DISTRICT COLLABORATIVE SERVICES

REGIONAL STRATEGIC CHALLENGE: To boost the development of collective facilities and pooled services at the district level.

OPPORTUNITY: Development of sustainable commercial activities which rely on a collaborative consumption approach, facilitating the pooling of products and services between households living in a single district.

#### 2. SUSTAINABLE URBAN FOOD

REGIONAL STRATEGIC CHALLENGE: To develop a sustainable food system (production, logistics and processing) which generates local jobs and services.

OPPORTUNITY: To promote the food resilience of the city through the development of services facilitating urban agriculture and local food logistics.

#### 3. OPTIMISING THE USE OF URBAN SPACES

REGIONAL STRATEGIC CHALLENGE: To optimise the occupation of urban spaces and to organise in an optimum way the various functions (urban agricultural areas, parking spaces, etc.) for the same use or a multifunctional use.

OPPORTUNITY: To develop the spaces and the residual potential in the city. Take advantage of the unused spaces and areas in urban environments.

#### 4. URBAN ECOLOGISTICS

REGIONAL STRATEGIC CHALLENGE: To optimise the transport of goods and reduce the densification of urban transport.

OPPORTUNITY: Final mile logistics: reduce the environmental impact of the final distribution logistics of businesses and the business-to-home logistics.

#### 5. INTEGRATED SERVICES AIMED AT SENIORS

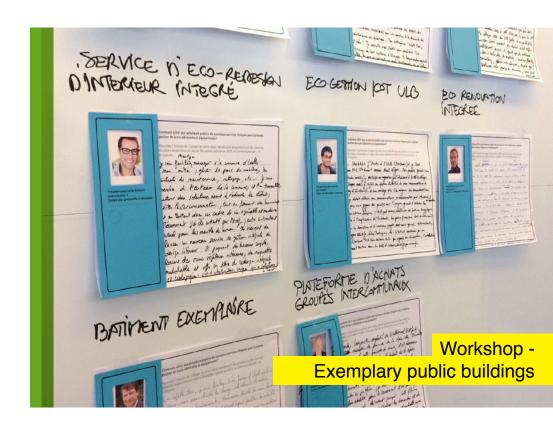
REGIONAL STRATEGIC CHALLENGE: To boost the service offer aimed at seniors to enable them to remain at home longer and continue their active role in society.

OPPORTUNITY: To rethink the existing urban services in order to adapt them to maintaining the independence of older people.

#### 6. EXEMPLARY PUBLIC BUILDINGS

REGIONAL STRATEGIC CHALLENGE: The public authorities must act as role models in terms of their methods of managing public buildings.

OPPORTUNITY: Development of model solutions to the question of the global management of buildings by the public authorities (energy management, offices, consumables).



## Phase 3: Nontechnological monitoring

In order to support Phase 2 (transforming the challenges into opportunities) and to initiate Phase 4 (incubation workshops for innovative business models), monitoring must be carried out on inspiring cases in order to nurture the review process and identify major areas of appeal.

As part of this project, the monitoring process has identified 80 cases of PSS. Within this database, several innovative solutions meeting the challenges identified in Phase 2 have been chosen as "inspiring cases".

These innovative business cases help to start the conversation at the incubation workshops by offering a list of existing solutions to be hybridised. The cases were presented in the form of a small exhibition (photos opposite) in the meeting room and in the form of cards on the tables (picture below right).



### Phase 4: Creative labs, co-creation of PSS solutions

Once the key topics have been broken down into challenges and opportunities (Phase 2), a creative phase is set up by means of incubation workshops for new business models. The workshops are organised by key topic.

The objective of each thematic workshop is to co-construct one or more innovative PSS solutions with the participants.

Each workshop module is planned to accommodate around fifteen players capable of forming a partnership together.

All the workshops constitute a creative ecosystem, with potential for cross-fertilisation between workshops.

The objective of the approach is to co-create, with the users of a territory, business ideas which meet their expectations and their needs. It is important, however, to invite complementary profiles from the different players populating the territory:

- Businesses, federations;
- Representatives of public authorities able to take part in public-private partnerships;
- Community-based players;
- Residents;
- etc.

For each workshop, the potential players can be identified according to various channels:

- clusters/federations/chambers of commerce;
- civic projects (ecodistricts, transition town, etc.)
- CPAS (disadvantaged people)

- Public authority
- etc.

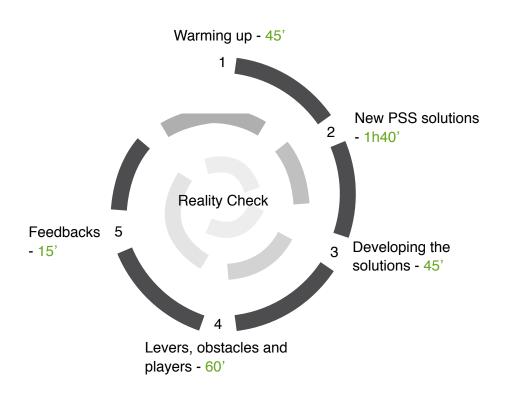
Participation in such workshops assumes that the invited players have an open-minded, creative, even eager, attitude towards the exploration of new business models and partnerships which they could join. Particular care should be taken to manage the possible competitive positions or conflicts or interest between players.

As an example, the following blog http://www.sustainable-everyday-project, net/pss/about/ presents all the creative ideas generated as part of the TURAS project (inspiring cases, awareness video, story-telling, business cases generated, etc.)



# A. Format of the workshop

5 steps in a day lasting from 10.00hrs to 16.00hrs



# Step 1: Warming up

The objective of this first part, in addition to introductions and a presentation of the format of the day, is to familiarise the participating players with the PSS notion. To that end, a presentation of the PSS concept can be given using a video, and an exhibition of the inspiring cases is set up.



## Step 2: Generating new PSS solutions

Here, a practical approach is preferred, in sub-groups (maximum 5 people) stimulating creativity, flexibility and convergence among the participants, using concrete examples drawn from the inspiring cases (identified in Phase 3).

- Objectives
  To create some innovative PSS
  offers based on the users, the
  expectations, the benefits in terms
  of use, and a demand logic.
- Story-telling tools: Arbitrarily choose a user and make up a short story which describes the benefits he derives from a new solution in order to deduce the specifications which the new service should have to satisfy this user effectively (photo top right).

The solutions are presented to camera by the participants (photo opposite, centre). Then a prioritisation exercise and a rapid deliberative selective process (with the aid of stickers) helps to identify and select the most promising PSS solutions which will be examined in detail in the following steps of the workshop (photo opposite, bottom right)



System Map • • • • (core of the service)

## **Step 3: Developing the solutions**

The third step takes place still in sub-groups. The participants get together around a business project which appeals to them the most.

#### Objectives:

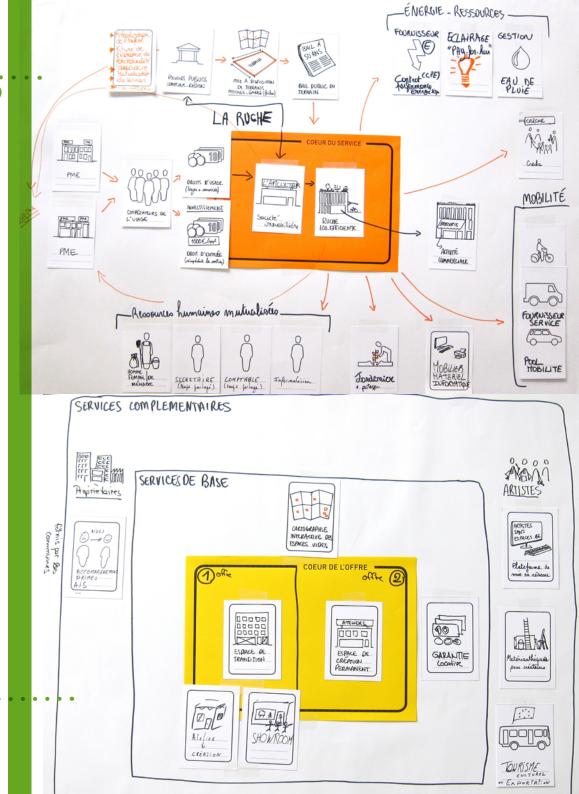
The objective of this third part is to develop the identified PSS hypothesis by changing the perspective in order to move from the user experience to the organisation of, firstly, the system of players needed to implement the solutions (top view) and, secondly, the way in which the offer could be presented on the market (front view).

#### Tools:

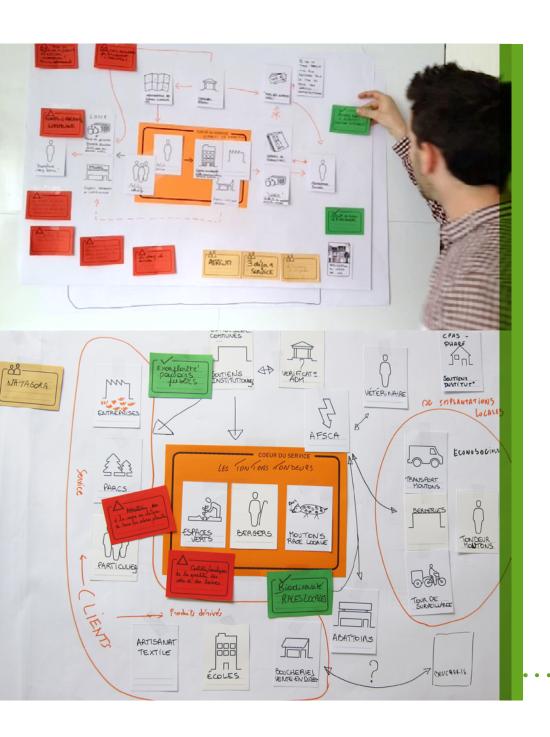
- System Map
The System Map makes it
possible to create a graphical
representation of the interaction
between the players, to specify
the principal material, information
and economic flows and to verify

the coherence of these flows:

- Offering Diagram
Constructing the offer as it would appear on the market; identifying the core of the offer on the market, its principal value and its identity for the users



Offering Diagram (core of the offer)



# Step 4: Identifying the levers, obstacles and players

Objectives: The objective of this final step is to evaluate, in a group session, for each solution:

- the economic, legislative and tax barriers and also the behavioural, cultural and conjectural barriers, and the important points to be identified;
- the players and partners to implement the solution;
- the levers to facilitate the development and implementation of the idea.

The participants write their comments on coloured stickers and share them with the whole group, explaining/justifying their remarks.

 Comments from the participants

# B. Results of the generation phase

Following these workshops, the elements developed in connection with the Offering Diagram and the System Map must be summarised in the form of a framework business plan. An example is presented opposite.

"As a small business, our premises lack space. We don't have a pleasant place to welcome guests for a business meeting. We feel a bit cramped in our offices when we want to review a project. Since finding out about "Cosy Working Places", we now have nice spaces to unleash our creativity. We just have to go online and book a space for our group in a café in the network and we can work in a pleasant place which is totally integrated into the café."

#### CAFÉ RÉUNION [MEETING CAFÉ]

**WORK SPACES WITHIN CAFES** 



TRANSITION DES ACTIVITÉS MANUFACTURIÈRES VERS LES PRODUCT SERVICE SYSTEMS A BRUKELLES

#### CHALLENGES/SOLUTION

How to offer pleasantwork spaces to microenterprises and SMEs? How to improve the revenue of HORECA establishments in times of crisis?

The Cosy Working Places network brings together a group of caférestaurants which, outside peak hours, offer integrated work spaces (writing materials, arrangement of tables, intermet connection, etc.) to business people. The space is booked via a web platform. The "Cosy Working Places" business is responsible for recruiting the caférestaurants, fitting out the functional work spaces and organising the booking of the venues via the web platform.

#### PRINCIPAL CHARACTERISTICS

- Wide choice of pleasant meeting places
- Space booked via a web platform
- Participating café-restaurants can be located via an app
- Integration of functional work spaces within the café-restaurants which are members of the network
- Optimisation of the space in HORECA establishments outside peak hours

#### CUSTOMER TARGETS

· Sole traders, microenterprises and SMEs

#### PARTNERS PLATFORM

- Cafes and restaurants
- Suppliers of office equipment
- Interior designer

#### VALUE PROPOSITION

For the customers:

- Having access to a pleasant work space at a lower cost

For the partners (members of the network):

- Optimising the space in my restaurant
- Increasing the attendance rate and the tumover of my establishment
- Having good publicity

#### DISSEMINATION/DISTRIBUTION

- Networks for groups of microenterprises/SMEs (ABE, CI, etc.)]
- Website
- Visit Brussels

#### LOCAL RESOURCES/CIRCULAR ECONOMY LOGIC

- Optimisation of the urban area
- Integration of recyclable and modulable work spaces
- Maintaining local jobs

#### REVENUE FLOWS

- Design service for work spaces
- Sale of refreshments to the users of the spaces

#### PROFITABILITY INDICATORS FOR THE BUSINESS

- Number of HORECA establishments that are members of the network.
- Number of work spaces available
- Number of work space bookings

#### RECOMMENDATIONS/DISCUSSION

- The system must be free for the businesses. The café-restaurants are remunerated through the sales of refreshments
- Accessorisation of the spaces to turn them into work spaces does not seem to be essential. The core of the service lies in the booking website in order to fill the cafés during off-peak periods.

### Phase 5

Reality check: formalisation of the business models and support for the creation of activities

The objectives of the Reality Check phase are to try out a new business idea by confronting its most critical/sensitive aspects with the real world in order to 'debug' the solution (assess the viability of the solution, highlight the opportunities it represents and any weaknesses, etc.) and to gain a better understanding of how it would need to be implemented (through partial simulations, a detailed run-through of the service process, ongoing self-completed interviews with the stakeholders, etc.).

The Reality Check also makes it possible to examine the solution from the users' point of view (appeal and maturity with regard to the concept, sensitivity, etc.).

#### The tools

#### **Creative Debugging**

Creative Debugging is a creative feasibility study of the concept whereby it is possible, via a few checks, estimates and rapid calculations, to come up with some viability (ethical, social, environmental, technical, economic, marketing, etc.) options for the solution.

The Creative Debugging tool can be described as a progressive, in-situ design approach which is in keeping with the Living Labs and any other participative design or user-centred design type of approach aimed at establishing the creative approach within the community of users for whom it is intended, or even to coproduce this approach with the users. It is similar to peddling the initial concept which is gradually transformed and refined while in contact with reality.

The process undertaken for the 'Café Réunion' concept (Business case for the 'Optimisation of urban space' theme) is certainly the most symbolic of this approach: by spending an initial half-day checking out the cafés in one district in Brussels (Flagey), it was possible to explore the concept informally with the café owners and to identify premises suitable for the series of 3 meetings of the project team (self-experimentation). Then, after a second series of café visits, this time over a wider territory and with some initial demonstration material, it was possible to identify potential targets and to define those with which a detailed meeting would be the most profitable.



Key features of the Creative Debugging tool

- a research approach undertaken by creative experts;
- an iterative process for refining the concept in contact with reality;
- a co-creation approach involving players in the field.



• • Creative debugging / Café réunion concept

#### Micro-experimentation

Micro-experimentation consists in the partial realisation of the solution with conditions similar to reality (mock-up products, benevolent users, remote operators simulating the functioning of a system, etc.). There is a lot to be learned even from a very imperfect simulation of reality and, conversely, there is great risk in implementing a project without trying it out, albeit imperfectly.

The Micro-experimentation tool assumes an 'act as if' approach under conditions approaching the real use, sufficiently small-scale to retain a limited financial impact and sufficiently real to understand the genuine conditions of implementing the solution. The users participating in the experiment are heard/interviewed throughout the process via various techniques, such as micro-interviews, note-taking, continuous verbalisation, etc.



#### Key features of Micro-experimentation

- A collaborative approach between the project team and the users;
- A benevolent attitude, an 'act as if' approach to help overcome the imperfections in the experimentation material;
- Rigour to ensure a separation between the many biases induced by micro-experimentation and the lessons that can emerge from the process.

#### Reactor

The Reactor consists in producing a realistic presentation of the process of operating the service and portraying one or more subjects using the solution. A Reactor can take various forms (visual, object, video, web, etc.). It simulates the PSS concept as it would be if it already existed in a finalised form. It makes it possible to react to and to discuss/develop the solution much more effectively with panels of potential users/stakeholders who are able to understand the solution better and project themselves into its use.



In the case of the Brussels project, several Reactors were produced, including a sales brochure for the "berger urbain [urban shepherd]" business case (opposite).

It was carried out with a mixture of images borrowed from the web and real photos of sheep from the Nos Pilifs farm, a potential owner of the project. Here too, the Reactor tool helped to accelerate the consolidation of the solution, but this time with the project owners: the fact that they recognised their own sheep made the project real for those involved from the Nos Pilifs farm: "the solution becomes real, it exists".



Key features of the Reactor

- A simulation of the PSS solution as it would appear on the market:
- A finalised form of presentation despite the still significant unclear areas in the project.









This service is offered

- To public authorities (differentiated management of parks and nature reserves, areas around historic buildings, etc.).
- To private businesses (maintenance of lawns and flower meadows)
- To individuals (areas larger than 10 ares).

#### THE IDEA BEHIND THE SERVICE

Replacing mowers with sheep is by no means quaint. There are several European experiments to prove it.

#### Ecodynamic management of grassy spaces:

- Controlling the intensity of the grazing (according to the density of sheep/area and the duration of their stay).
- Customised work (short grass, spring and/or summer grazing on flower meadows, selective grazing, plot cleaning, etc.).
- In the majority of packages, sheep are cheaper than machines

#### Internal dynamic and positive external image

- These sheep will be quickly tamed by your employees and visitors. "Sheep advisor" training can also be offered to the more motivated in order to provide a link between our two businesses and reduce the travel costs.
- 'Irresistible' initiative as regards communication



This is calculated not only on the basis of the area grazed and the number of sheep. It also depends on the "human" time (animal care, checking fences and drinking troughs, training the 'advisors').

The frequency of visits varies according to the package chosen, the characteristics of the site, the area to be maintained and the season.

In winter, the sheep can return to the Nos Pilifs farm or say on site (in which case a mobile sheep pen is installed).

These are all deciding factors in determining the price of the service.

→ Free quotation on request

Want to take part in this project?
Test it for a month and you'll see...try it and you'll love it!.



More information at : www.fermenospilifs.be



Flyer for *Berger Urbain* 

### In conclusion

The development of Product-Service System (PSS) solutions in an urban context must, above all, be able to meet a series of strategic challenges linked to the development of a more sustainable city. Unlike other approaches to developing new business models for services, centred around the generation of a new offer for a given business, the methodology developed also relies on an assessment of the territory.

The major challenges identified during the territorial assessments must be able to be transformed into opportunities for creating economic activities: district collaborative services, urban sustainable food, optimisation of urban spaces, urban ecologistics, adapted services for an ageing population, and so on.

In the context of the emergence and implementation of innovative business models, the development of the solution can be broken down into various successive phases, from the ideation step (Creative Lab), to the detailed analysis of the solution (Reality Check) and, finally, the gradual transformation into a viable business model (implementation).

The business models have been analysed using a toolkit created for that purpose: Creative Debugging, Microexperimentation and Reactors.

## TOOLKIT PSS

Development of innovative business models for product-service systems in an urban context of sustainable transition

#### **Publication director**

Patrick Van Den Abeele (Brussels Environment)

#### **Authors**

François Jégou and Christophe Gouache (Strategic Design Scenarios)

Erwan Mouazan and Anne-Sophie Ansenne (Ecores/Groupe One),

Joëlle Libermann (Égérie Research)

Patrick Van Den Abeele (Brussels Environment)

Published by

#### **IBGEBIM**

Avenue Gulledelle, 100 B-1200 Brussels STRATEGIC DESIGN SCENARIOS rue Dautzenberg, 36-38 BE-1050 Brussels









