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**Replication Assessment in Follower City Suceava**

**Report template v.3**

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Follower Cities of GrowSmarter

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# **Objective**

The Follower Cities are committed to preparing for the replication within their territories of the Smart Solutions demonstrated by the Lighthouse Cities. In order to ensure appropriate and effective transfer of knowledge, experiences and Smart Solutions, the Follower Cities will develop a baseline assessment for replication.

To this end, objectives of the Replication Assessment include the following:

* Identify and assess the full potential of replication and up-scaling of Smart Solutions on a city level and for specific districts
* Provide a matrix for Follower Cities to develop their smart city projects through in-depth understanding of concept, approaches, applications, opportunities, challenges, needs, success factors of smart city applications in Lighthouse Cities
* Support related and necessary local smart-city stakeholder engagement
* Support the political and technical capacity development process through mapping the framework conditions for deploying Smart Solutions and identifying opportunities and needs for a knowledge transfer
* Prepare and engage Follower Cities as ‘sounding boards’ in observing, supporting and evaluating the Lighthouse projects.

# **Parties engaged in the Replication Assessment Report**

The Smart City Replication Assessment is prepared by the Follower City Liaison Group. Cork, Graz and Porto will be supported through all activities by ICLEI. Suceava and Valetta will be supported by REC

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# **Timeline and replication roadmap**

The Smart City Replication Assessment can be understood as living document that is continuously (and at least annually) updated and refined as needed to reflect the latest developments of the potential and framework conditions for the replication of Smart Solutions. Two public reports are foreseen; the first for month 6, the second for month 30. Subsequently, the Replication Assessment will lead to the development of a Replication Plan in month 48.

The Replication Assessment is part of the overall replication roadmap of the Follower Cities of GrowSmarter and can be characterized by the following milestones:

|  |  |
| --- | --- |
| **Milestone 0** | * FC made initial selection of LCs’ Smart Solutions for replication |
| **Milestone 1** | * Establish a multi-stakeholder Smart City Liaison Group |
| **Milestone 2** | * 1st Replication Assessment for deployment of Smart Solutions |
| **Milestone 3** | * Establishment of capacity development programme and stakeholder process in FC |
| **Milestone 4** | * 2nd Replication Assessment for deployment of Smart Solutions |
| **Milestone 5** | * Development of Replication Plan in FCs |
| **Milestone 6** | * Up-scaling and replicability Report |

# **Structure of the Replication Assessment**

The Smart City Replication Assessment consists of the following main sections:

|  |  |
| --- | --- |
| **Smart City Replication Profile** | * Mapping the overall framework conditions and potentials for replication within the city territory |
| **Smart Solutions Selection** | * Description of replication potential of selected Smart Solutions of LCs within FC |
| **Smart District Replication Profile** | * Per potential replication site/district: Mapping of district related framework conditions relevant for the replication of the selected solutions |
| **Smart Solutions Specifications** | * Assessment and adaptation of solutions towards the most effective deployment and integration at site/district level |

The assessment needs regular update. The last two district-level sections will need to be repeated for each identified replication site/district foreseen for the deployment of the selected Smart Solutions.

Each section will also identify needs for political and technical knowledge transfer and capacity building for a successful replication on a city and district level.

# **Replication Assessment of the Follower City Suceava**

## **Smart City Replication Profile**

**Mapping the overall framework conditions for replication within the city territory**

#### Q1 what is the overall replication potential for Smart Solutions until 2020 and beyond?

The north-east Romanian city of Suceava (population about 107,000), one of Romania’s oldest settlements, has been the capital of Suceava County since 1388. Suceava lies 450 km from Romania’s capital Bucharest, on a main European highway. The government is making efforts to improve the region’s transport network as part of a broader urban regeneration using EU Cohesion Policy grants. Figuring on UNESCO’s World Heritage List, Suceava is home to orthodox monasteries and churches, and a 14th century castle. The local industry is based on glass and wood manufactories, textiles and construction materials.

Suceava faces the combined challenges of increased motorised traffic, and stringent European environmental and energy targets. The municipality, which owns the local public transport company, has already taken part in initiatives to encourage sustainable urban mobility, including the CIVITAS II (2005-2009) Smile Project, and MIDAS (2006-2009), part of the Intelligent Energy for Europe's STEER Programme.

In 2013 Suceava Local Council approved a Sustainable Energy Action Plan (SEAP) regarding energy efficiency and implementation of project regarding increase of alternative usage at local level, implementation of the electro mobility concept. The main objective of SEAP is to reduce the greenhouse gas emissions by at least 20% by 2020 and to promote the investments carried out within Suceava Municipality which can lead to an efficient use of energy by improving the existing energy performance or the development of constructions, installations, equipment and technologies enjoying high energy efficiency, including feasible renewable energy sources.

SEAP is the methodology according to which Suceava Municipality will reach its objectives by 2020, using the results of BEI (Baseline Emission Inventory) in view of identifying the best fields of action and the best existing opportunities in order to meet the local objective of reducing CO2 emissions. SEAP defines the concrete reducing measures, together with the time frames, assigned responsibilities and estimated budgets.

SEAP should be considered a communication and promotion tool for the decision-makers, baseline tool for implementation. SEAP should not be regarded as a rigid document, as circumstances change and, as the ongoing actions provide results and experience, it may be necessary to revise the plan on a regular basis.

SEAP concerns measures within the competence and reach of local authorities. Therefore, local authority is expected to play an exemplary role and consequently to take outstanding measures related to the local authority’s own buildings and facilities, vehicle fleet, producing energy from renewable sources, urban mobility etc.

According to the Sustainable Energy Action Plan, Sustainable Urban Mobility Plan and Local Development Strategy in the next 20 years the municipality will have to focuses on the following fields (no prioritization):

* Buildings and facilities (municipal, residential and tertiary buildings, public lighting);
* Transport (municipal fleet, public, private and commercial transport);
* Centralized heating system – using renewable resources ;
* Local energy production (solar heating installation and solar photovoltaic modules, high-efficiency cogeneration, biomass fuel heating installations);
* Urban planning (strategic urban planning, sustainable mobility urban planning, development of local regulations to support sustainable constructions);
* Procurement (local energy-efficiency regulations, local regulations on the utilization of renewable energy sources);
* Electric vehicles ( private and public ) and electric busses for public transport
* Communication (technical assistance and consulting services, financial support and subsidies, information and awareness campaigns, training sessions);
* Waste management (selective collecting, recycling).

Suceava municipality would like to benefit from the available existing funding opportunities – ERDF , national and regional funds (For example, central governmental funds for rehabilitation of public buildings or a possibility to access regional funds by forming an association of at least 2 municipalities for funding and implementation of common projects), private and public – in order to continue the implementation of the energy efficiency measures at local level (620 mil Eur available at the regional level for the period 2014 -2020, 85 % from the EU and 12% from the national budget):

#### Q2 How does the “Smart City” approach feed into/connect with your existing local planning processes?

In 2013 we finalized the Sustainable Energy Action Plan (SEAP) and in 2015 the Suceava Sustainable Urban Mobility Plan was finalized and presented to the local stakeholders, decision makers and members of the Local Support Group.

The main objectives of the actions included in the above mentioned documents will be:

* Correlating the local energy framework with the national and European ones;
* Better life quality;
* General contribution to town’s attractiveness;
* Increased attractiveness for trade and industry;
* Supporting economic growth;
* Attracting investments;
* Compliance with the European and National Policies on Climate Changes

Therefore the Grow Smarter Project will be an unique opportunity for Suceava Municipality to have access of different practical solution and best practice experience transfer which will sustain local efforts for becoming a “ Smart City “ .

#### Q3 Is there a (strategic) plan and organizational structure in place to become a "Smart City"?

The is a strong willingness and political support at local level for implementation of the smart measures in order to become a SMART City but for the moment we cannot say that there is a specific structure at local level that is mainly involved and responsible for this issue

#### Q4 Are there synergies and/or conflicts of the “Smart City” plan and organizational structure with existing initiatives and their structures within the city?

No.

#### Q5 Which regional and local stakeholders are involved in the Smart City strategy and planning process on the city level and how?

In the past 5 years the Urbact Support Local Group (USLG) was involved in the designing process for the local strategies and plans concerning energy efficiency at local level, sustainable development and mobility as well.

USLG is a consultation only body, meaning the group can only provide ideas and feedback from the perspective of a different stakeholder, but they can also influence their own institutions, companies and groups. Their ideas and documents are presented to the local council for approval and future implementation.

The Suceava ULSG has been meeting since early 2010 to discuss the challenges and opportunities associated with enabling electro-mobility It has provided an opportunity for the diverse stakeholders involved with a particular issue, to come together, identify issues of concern and seek ways to overcome them. With representatives from local authorities, local private companies, NGOs, local media, local retailers, electricity generators/distributors and retailers as well as academic institutions and private consultancies, the ULSG has provided a focused approach to looking at the challenges while incorporating the experience of other European partner cities, in developing an approach that can be taken forward in Suceava and Romania also.

Usually the meeting took place 4 to 6 times per year as a regular basis and of course anytime when the municipality intent to design a local strategy and a public consultation is not only requested but recommended.

Our intention is to continue the cooperation within this group during the Grow Smarter implementation phase.

#### Q6 What are past (<5 years) and current projects that are closely related to the "Smart City" concept?

The Suceava Municipality implemented between 05.2012 – 11.2012 phase I and 12.2013 – 12.2015 phase II the project “Sustainable Urban Markets” that was co-financed by the European Union through the European Regional Development Fund, under the Interregional Cooperation Programme URBACT II. – [www.urbact.eu/urbanmarkets](http://www.urbact.eu/urbanmarkets)

The budget allocated to the Romanian partner was 5.437,50 Eur for Phase I and 61.124,39 Eur for Phase II, of which 80 % is co-financing from the European Union , while 20 % are national contribution (of which 13 % budget State and 7% local budget).

The main objective of the project were : demonstrate the catalytic effect that urban markets have in the major thematic areas that generate sustainable growth: regeneration of the historic city centre, the development of economic activities with low CO2 emissions, the promotion of local entrepreneurship and stimulating employment .

The Suceava Municipality was partner in the URBACT project called ”Electric Vehicles in Urban Europe” EVUE which lasted from December 2009 - May 2010 (development phase) and July 2010 – December 2012 (implementation phase) . [www.urbact.eu/evue](http://www.urbact.eu/evue)

The budget allocated to the Romanian Partner was of 12.500 Eur for development phase and 38.945 Eur for implementation phase, of which 80 % is co-financing from the European Union , while 20 % are national contribution (of which 13 % budget State and 7% local budget).

The EVUE project was focused on identifying and implementing the framework and infrastructure required that will enable electric vehicles to become the preferred mode of choice in urban areas. By directly targeting a major source of air and noise pollution in our cities, it was hoped to improve the lives of all citizens and ensure that urban areas mitigate their negative environmental impacts as efficiently as possible.

„Electric Vehicles in Urban Europe” EVUE II in which Suceava Municipality was partner was implemented between December 2013 – March 2015.

The budget allocated to the Romanian Partner was of 43.000 Eur of which 80 % is co-financing from the European Union, while 20 % are national contribution (of which 13 % budget State and 7% local budget).

Electric Vehicles in Urban Europe (EVUE II) focused on the development of integrated, sustainable strategies and dynamic leadership techniques for cities to promote the use of electric vehicles. Urban initiatives to encourage the public and business to use EV's contributed to EU clean air and car fleets targets, making cities more attractive and competitive. Between 2009 and 2015, nine cities across Europe: Beja, Katowice, Frankfurt, Lisbon, London, Madrid, Oslo, Stockholm, Suceava and Zografou, supported by the URBACT programme, worked together to share knowledge and experience of how EVs can be implemented in the urban environment under the EVUE project.

“Electromobility-electric vehicles for a green municipality” project co–financed (80 %) by the Government of Switzerland through the Swiss-Romanian Cooperation Programme.

The project budget of 3.112.490 CHF (2.563.511 Eur) will be used (in the second part of 2015) in order to implement the electro mobility concept. In this project the following activities will be conducted :

* Purchase of electric vehicles for Suceava Municipality fleet: 11 vehicles, 2 vans, 1 sweeping machine, 1 tanker
* The installation of charging infrastructure for electric vehicles: 14 standard charging points, 14 fast charge points, 56 parking spaces for electric vehicles (in public car parks, underground car parks, residential areas)
* Acquisition of 10 electric bicycles and their charging system (equipped with photovoltaic panels 5KW)
* Finally, the amount of 225.000 RON is designated for developing a technical-economic documentation that will be used to obtain the grant for the project "Environmentally friendly public transport system interurban"(purchase a total of 40 electric buses for public transport)

“**Modern and efficient public lighting management in Suceava Municipality”.**

The project budget is 6.417.314 CHF from which 5.238108 CHF are Swiss Govern grant .In the next 18 month we will replace all the 3816 existing old light units from Suceava city with units that use light sources with LED technology and in the same time a telemanagement system of the lighting units will be implemented .This project will conduct to an important reduction of energy consumption and CO2 emissions.

In the past 5 years in Suceava there were construction works for rehabilitation of 380 apartments (structure, heating system) in order to reduce the waste of energy and to improve energy efficiency using 0,864 million Eur.

Starting from 2013 in Suceava, through a PPP , a new city power plant is functional , using only biomass, provided both heating for the entire city and energy . This project is considered to be a starting point for increasing the production of green energy at local level. 2011 was the starting point of a major waste management project at county level. This project includes transfer stations for waste, a new landfill with biogas production plant, modern systems for environment protection and separate recycling facilities – 2,3 mil Eur - ERDF funds. For the moment Suceava city is working of a tender documentation for the waste management supplier at local level .This will be a 7 year contract that will include facilities for separate waste collection in order to increase the level of waste recycling at local level and to reduce the consumption of raw materials.

**Other already implemented projects:**

- Rehabilitation of 55 %of the city heating transport system (isolation, pipe lines, transfer points) – 102 km and 28 PT - in order to reduce the lost energy into the system - own funds

- Rehabilitation of the public lightning system - 24 km of network , replace the old lamps with new and energy saving ones and implementation of a tele management system in order to reduce the energy consumption and increase the efficiency - 1,2 mil Eur project ERDF funds

- Rehabilitation of 26 km of city streets in order to reduce the traffic congestion and increase the number of PT passengers (including 10,5 km of bikes lanes)- 8,7 mil Eur ERDF funds

- Construction of a 164 underground parking facility in the city center together with the rehabilitation of the main city center pedestrian area in order to create facilities for reduce traffic congestion , traffic emissions and encourage walking instead of driving - 11,4 mil Eur - ERDF funds

#### Q7 Which sites/districts are projected to be developed in the next five/ten years?

Future projects to be implemented:

- Rehabilitation of public lighting system - replacement of the all lamps with LED ones for the entire city - reduce the energy consumption - 3,2 mil Eur, Swiss funds - 2015

- electro mobility for the city - 15 EV's and 28 charging points also 10 electric bikes in order to promote electro mobility - 2 milion Eur, Swiss funds - 2015

- 30- 45 electric busses to replace the existing diesel ones for the PT company - ERDF funds - 2016

- Rehabilitation of the educational infrastructure (in order to reduce the energy consumption) and also 200 apartments - till 2020, ERDF funds

- establish a photovoltaic panels grid for own municipal needs - ERDF funds till 2018

- Implementation of a metropolitan area PT system with intermodal points and transfer facilities in order to reduce the traffic emissions

- New city belt for the metropolitan area in order to divert the heavy traffic from entering into the city

- Rehabilitation of the main city markets (including introduction of energy saving systems, recycling facilities and mobility plans for freight (URBACT Programme 2007-2013 and ERDF).

#### Q8 What are the main areas of interest of the FC in the Smart City concept?

We would like to:

* Reduce the energy consumption and increase energy efficiency (public buildings – schools , high schools but also private ones)
* Reduce traffic emissions and impact against environment and peoples (sustainable traffic development and management)
* Increase the usage of alternative energies (solar , biomass , geothermal) in order to reduce the dependency for the classic energy sources (coal, petrol)
* Implement the electro mobility concept (electric vehicles , charging points , electric busses and bikes)
* Implement the sustainable urban transportation and traffic (car sharing , park and ride)
* Separate waste collection and recycling (for the moment the recycling percentage is quite low at local level and we would like to improve these numbers with specific measures including actions for changing the people’s behavior)

**Mapping of the overall opportunities and needs for a successful replication**

#### Q1 What are the main overall needs of the FC to become a "Smart City"?

The Suceava Municipality has been involved in sustainable projects for local development since 1998. Most of them were funded through European grants but there are also local and central budget ones.

In the past 12 years a few documents were produced at local level with actions that concerns sustainable development and energy efficiency: Local Development Strategy 2007 – 2014, Local Integrated Development Plan – 2010, Local Actions Plans – trough URBACT Programme, Sustainable Energy Action Plan – 2013 with specific measures related to energy efficiency.

There is a strong political support at local level for implementation of measures that will allow Suceava to become a Smart City.

In the past 12 years millions of Eur (both from European grants and local budget) were invested in : streets rehabilitation , waste water plan and network rehabilitation , construction of underground parking places , rehabilitation of city public lighting system , construction of municipal power plans (using only biomass for energy and heating production) , rehabilitation of apartments buildings , purchasing of electric vehicles and installation of charging points ,rehabilitation and creation of new green areas , bikes lanes ,new regional waste collection system , new environmentally friendly municipal landfill ,traffic lights rehabilitation ...

There is still a strong demand of investments at local level needed for achievement of the overall objective: become a smart city.

A very important aspect was the transfer of best practice and knowledge from European city partners in several domains from sustainable traffic management to separate waste collection and recycling.

The Suceava Municipality has the willingness and also the experienced staff for implementation of future smart measures at local level.

#### Q2 What specific aspects the FC likes to explore with Stockholm, Cologne and/or Barcelona?

We do expect to be able to learn more about the introduction of measures that conduct to improve energy efficiency and for this reason we would like to transfer the best practice and experience from the city of Barcelona , not only for the rehabilitation of the residential and municipal buildings but also in being able to develop facilities at local level for “ technological parks “ for companies which will invest in new green technologies in order to develop the local market and to create new jobs .

This measure together with the production of energy from the new power plant (using only biomass) is going to replicate the experience from the lighthouse cities regarding reduction of energy consumption (by using LED lighting for public lighting system) and production increasing the green energy production at local level.

In connection with the smart waste collecting, turning waste to electricity, heat and biogas for vehicles our expectation is to be able to transfer the experience from city of Stockholm mostly in connection with separate waste connection , recycling facilities and production of “ green energy “ by using biomass and reduce the dependency of the conventional sources.

Our goal in this project is to transfer the best practice from Stockholm mainly in connection with the cycling facilities and traffic management and before these in connection with alternative solution for public transport (biogas or electric buses) in order to increase the number of passengers, reduce the car dependency, avoid traffic congestion and change people’s behavior regarding mobility habits.

Our expectations from this new project are directly linked with the possibility of learning from the experience of the lighthouse cities in domains that are connected with the “green city “concept.

For example having in mind that in the next 3 years Suceava City will start the implementation of the electro mobility concept at local level we expect that the participation in this project will facilitate the transfer of best practice that Stockholm has in the field of electric vehicles, charging points and facilities for electric vehicles.

The aim of Suceava city measures is to replicate the lighthouse city experience (Stockholm in this case) in order to substitute the car in other trips, that are less regular and more individual.

Our goal is to offer different and alternative solutions completing the existing public transport network like bike pools, e-bikes, EV-pools.

#### Q3 What insights and opportunities can your city offer to the LCs and other FCs?

We do have experience in :

* Rehabilitation of the public lighting system ( with significant reduction of energy consumption and CO2 emissions )
* Urban sustainable mobility – bikes lanes , improve the local public transport accessibility
* “Green and sustainable energy production “ – central heating system is connected to the main power plant that use only biomass
* Rehabilitation of apartments blocks ( increase energy efficiency )
* Rehabilitation of the central heating network – pipes and transfer centers

#### Q4 Are there any related events organised by the FC?

A local meeting with the representatives from the Regional Development Agency and USLG members in order to start the implementation of a local cluster for promotion of E-Mobility. However, no concrete events are planned at this point.

## **Smart Solutions Selection**

**Description of replication potential of selected Smart Solutions of LCs within FC**

The table below shows which solutions the Follower Cities plan to replicate.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | ***Follower Cities*** | | | | |
| ***Area*** | ***Smart Solutions*** | *Porto* | *Graz* | *Cork* | *Valetta* | *Suceava* |
| ***Housing measures*** | *1. Efficient and smart climate shell refurbishment* |  | *X* | *X* |  | *X* |
| *2. Smart building logistics and alternative fuelled vehicles* |  |  |  |  |  |
| *3. Smart, energy saving tenants through information* | *X* | *X* |  |  | *X* |
| *4. Smart local electricity production and integration with buildings and grid* |  |  | *X* |  | *X* |
| ***Integrated measures*** | *5. Smart lightning, lampposts as hubs for communication* | *X* | *X* | *X* |  | *X* |
| *6. Waste heat and local heat integration by new business models* |  | *X* |  |  |  |
| *7. Smart waste collecting, turning waste to electricity, heat and biogas for vehicles.* | *X* |  |  |  | *X* |
| *8. Big data protocol for saving energy and improving the quality of life* | *X* | *X* |  |  |  |
| ***Mobility measures*** | *9. Sustainable delivery* |  |  |  | *X* |  |
| *10. Smart traffic management* |  |  |  |  | *X* |
| *11. Alternative fuel driven vehicles for decarburizing and better air quality* | *X* |  | *X* |  | *X* |
| *12. Smart mobility solutions* |  | *X* | *X* | *X* | *X* |

## **5.3 Smart District Replication**

As Suceava city is actually a medium size one we do consider that all the city area (52 km2) could be named as a “replication district“.

Nevertheless, based on the last 10 years process of transformation, we will nominate the “Centru“ district as the replication one for this project .



### 5.3.1 Smart District “ Centru “ Replication Profile

**Mapping of district related replication framework for selected Smart Solutions**

#### Q1 What are the main characteristics of the district and what is the replication potential?

The main information related the Centru district are:

* Population is about 25.000 , but with the main public offices and private business located here , we can add a number of 2000- 5000 commuters per day
* The population structure here is about 37 % over 60 years, 47% in the category 25 to 60 years and 16% younger than 25 years of age.
* The main public institutions buildings ( from local and county level )are located in the district , together with a lot of banks , shops , central market , supermarkets ,schools and high schools , restaurants , hotels
* Employment is mainly state 45 % – for public institutions and 55 % private sector
* The most important culture objectives are located here (including XV century monasteries and castle ) the largest green areas are also here , the main leisure area and the only one 100% pedestrian street are here

There is a mixture of old apartments building (build in 1950 to 1980), new offices and shopping buildings (build after 1998) and a residential area with small old houses, most of them well preserved.

This specific document mentioned specific measures to be implemented in the district in order to improve the quality of life : rehabilitation of the old apartment buildings , of the lighting system , of the green areas , introduction of bikes lanes , extension of the pedestrian area , implementation of electro mobility concept , vehicle access restriction , increase the public transport accessibility.

In the past 15 years there were a lot of investments in rehabilitation of the district (streets, water and sewage network, public lighting, central heating system), traffic management and mobility efficiency.

There is still a strong demand of investments, mainly for the old apartment’s buildings, for energy efficiency projects, efficient and smart climate refurbishment, smart waste collection, mobility management, sustainable delivery, smart lighting and alternative fuel driving vehicles.

Having in mind that this district includes the city centre there are still problems to be addressed in the field of traffic pollution reduction, delivery of goods, traffic management, smart local energy production including alternative sources of energy.

The district was included in the Local Sustainable Development Strategy in the Sustainable Energy Action Plan but also has its own Development Urban Plan created in 2013.

This specific document mentioned specific measures to be implemented in the district in order to improve the quality of life : rehabilitation of the old apartment buildings , of the lighting system , of the green areas , introduction of bikes lanes , extension of the pedestrian area , implementation of electro mobility concept , increase the energy efficiency , vehicle access restriction , increase the public transport accessibility.

ERDF funding are available for the period of 2015- 2020 also local and central budget funds could contribute to district development.

In the next 5 years Suceava Municipality would like to invest in projects for:

-rehabilitation of the second part of the city castle , rehabilitation of the main green area , replacement of the existing lamppost for public lighting (with LED technology) , increase energy efficiency in private and public buildings ,installation of charging points and EV’s , electric buses for local public transport system , alternative fueled vehicles for goods delivery ,smart mobility solution (access restriction , extension of the pedestrian area).

#### Q2 Are there synergies and/or conflicts related to the Smart Solutions with the existing infrastructure, socio-economic profile and social acceptance?

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#### Q3 How will local stakeholders be involved in the replication of Smart Solutions?

We do have a Local Support Group created in 2009 for the EVUE URBACT project and we do expect that the group will continue to be active and involved in Grow Smarter project also. The group has representatives from public institutions , private companies , local producers , NGO ‘s , university , consultancy companies , citizens associations ,schools and high schools .This group was responsible also for production of the Local Action Plans and we will invite also other potential members to join our local group ( private companies mainly ) .

During the performing of the Sustainable Development Strategy there were meetings with citizens and district private companies.

The main interest is the sustainable development of the district, the reduction of traffic pollution, increase the quality of life, reduce unemployment and create a better environment for the young generation and for future private investments in the district.

We do expect to have a potential big interests from the young generation and possible few skeptical ideas and reaction from the oldest part of the inhabitants.

#### Q1 What are the main needs/ambitions for becoming a "Smart District"?

The main challenge is to secure adequate funding scheme that can allow us to move on from the already planned actions and measures to the real implementation of them.

Awareness raising and people consultation will be the main challenges for the local authorities in the difficult process of “smart measures “implementation phase.

#### Q2 What insights and opportunities can the district offer to the LCs and other FCs?

* EV’s implementation – as we will be the first Romanian city with electro mobility concept implemented ( EV’s , electric bikes , charging points and electric busses ) we think that we can share our experience with other city partners - alternative fuel driving vehicles
* Sustainable delivery – we would like to implement the " zero emissions " products concept - as we would like to encourage local producers ( food , crafts ) to increase the bio production and to deliver the products by using "zero emissions " vehicles - especially to local markets located in the city centre.

### 5.3.2 District “Centru “ - Smart Solutions Specifications

**Adaptation of solutions towards the most effective deployment and integration**

Smart Solutions the city of Suceava intends to deploy within the selected district and specify by answering the following questions:

* Efficient and smart climate refurbishment
* Smart energy saving tenants trough information
* Smart local electricity production
* Smart lighting
* Smart waste collection Smart traffic management
* Alternative fuel driven vehicles
* Smart mobility solution

**Replication of Smart City Solution**

#### Q1 What is the replication potential of the Smart Solution?

There is a strong political support at local level for implementation of measures concerning energy efficiency. Also the citizen’s level of awareness regarding the positive impact of the energy efficiency measures is quite high and it is expected to increase in the next period of 5 to 15 years , so the people’s support to measures like the one in the project is it expected to be at a medium to high level .In the past 10 years our experience of working with local stakeholders shows that there is a significant support for investments that could contribute to reduce the environmental impact of human activities.

The local development strategies, regional, national and European policies encourage and support local authorities in the implementation process for energy efficiency measures. The environmental impact of almost all actions undertaken by our local public authority is quantifiable and also taking into consideration not only because of “ fashionable behavior “ reasons but for the fact that immediate and adequate actions are needed in the process of improving the quality of life into the city.

For few of the mentioned measures we do have FS available:

Efficient and smart climate refurbishment

Smart local electricity production

Smart lighting

Smart waste collection

Smart traffic management

Alternative fuel driven vehicles

The main problem is of course financing resources for implementation of smart measures, but we are confident that the existing ERDF opportunities will allow us to fulfill our objectives.

Potential implementation:

**Solution 1: Efficient and smart climate shell refurbishment**

In the past 5 years in Suceava there were construction works for rehabilitation of 380 apartments (structure, heating system) in order to reduce the waste of energy and to improve energy efficiency using 0,864 million Euro –( central govern not reimbursable funds ) .

For the moment we are working for the technical documentation necessarily for ERDF funding for rehabilitation the educational infrastructure (in order to reduce the energy consumption and improve energy efficiency – heat recovery and green energy production) and also for 200 apartments - using ERDF funds. It is expected that till 2020 these projects will be implemented.

The central market will be rehabilitated:Introduction of utility systems (especially lighting and heating) using alternative, renewable power sources...The rehabilitation process already started with construction works of the structure (walls and main roof).

**Solution 3: Smart, energy saving tenants through information**

In the next 4 years the Suceava Municipality is planning to develop pilot Home Energy Management Systems for public buildings (schools, cultural centers, apartments buildings) in order to promote among public servants, children and citizens “smart energy behavior “that is expected to conduct to reduction of energy consumption, friendly attitude to environment and also test the citizens availability to implement future measures concerning energy efficiency improvement.

“Green education” of peoples and especially young people by means of promotion ,public information campaigns ,invention projects and by setting up a class curricula within school programs for professional trainings

#### Solution 4: Smart local electricity production and integration with buildings and grid

Local strategies and development plans include measures to increasing the local dependency on renewable electricity and for this reason in the next few years the following actions will be implemented:

* establish a photovoltaic panels grid for own municipal needs - ERDF funds till 2018
* photovoltaic panels will be installed in 2015 in order to provide the amount of energy necessarily for the charging station for the electric bikes (co –financed (80 %) by the Government of Switzerland through the Swiss-Romanian Cooperation Programme)
* rehabilitation of the Bazaar Commercial Centre (own by Suceava Municipality) – the main commercial building will be rehabilitated in order to increase the usage of daily lights , to reduce the waste of energy and also geothermal underground pumps will be introduced in order to provide the necessarily amount of heating by using alternative sources of energy . (co –financed ( 80 % ) by theGovernment of Switzerland through the Swiss-Romanian Cooperation Programme)
* rehabilitation of the main city markets (including introduction of energy saving systems, recycling facilities and mobility plans for freight ( ERDF).
* establish of several photovoltaic panels grid for own municipal needs (including energy production facilities for schools, high schools and private housing) - ERDF funds till 2018

#### Solution 5: Smart lighting, lampposts as hubs for communication

In the past 3 years in Suceava we successfully finalized the rehabilitation of the public lightning system - 24 km of network , replace the old lamps with new and energy saving ones and implementation of a management system in order to reduce the energy consumption and increase the efficiency - 1,2 mil Eur project ERDF funds.

* In 2016 we are planning to extend this measure at the entire town level by implementing the project for rehabilitation of public lighting system - replacement of the all lamps with LED ones for the entire city in order to reduce the energy consumption - 3,2 mil Eur - (co –financed (80 %) by theGovernment of Switzerland through the Swiss-Romanian Cooperation Programme).

Through this project 893 existing old lampposts will be replaced with new one (LED technology) in the Centru district. There will be also an implementation of a telemanagement system that will allow the Municipality to manage the utilization of the public lighting system in order to reduce the energy consumption and to minimize the environmental impact.

#### Solution 6: Smart waste collecting, turning waste to electricity, heat and biogas for vehicles.

Starting from 2013 in Suceava , through a PPP , a new city power plant is functional , using only biomass, provided both heating for the entire city and energy. This project is considered to be a starting point for increasing the production of green energy at local level.

2011 was the starting point of a major waste management project at county level.

This project includes transfer stations for waste, a new landfill (with biogas production plant and modern systems for environment protection and separate recycling facilities – 2, 3 mil Eur - ERDF funds.

For the moment Suceava city is working of a tender documentation for the waste management supplier at local level .This will be a 7 year long contract and will include facilities for separate waste collection in order to increase the level of waste recycling at local level and to reduce the consumption of raw materials.

In the next 6 years Municipality would like to continue the development of the existing separate waste collection – increase the level of recycling with 25 – 20 % till 2020. Special facilities (bins , advertising) will be located in the district area with the main purpose of increasing the waste recycling .there will be specific actions undertaken with local retailers , supermarkets and producers for the development of facilities (locations but also incentives) for separate waste collection and recycling – especially plastic bottles and paper

#### Solution 7: Smart charging of electrical vehicles

The Suceava Municipality secured in 2013 a 3.112.489,61 CHF grant contract co –financed ( 80 % ) by the Government of Switzerland through the Swiss-Romanian Cooperation Programme.

It is expected that in the second part of 2015 the grant contract will be signed and the implementation of the measures should begin in early 2016.

Through this contract there will be available funds as follow:

- 1.578.684,1 CHF for purchasing of 15 electric vehicles( 12 vans and 3 electric sweepers vehicles ) for Suceava Municipality fleet.

68.900 CHF for stimulating the use of electric vehicles by:

Setting up an infrastructure including 28 charging points in public places, out of which 14 standard charging points (SCP) and 14 fast charging points (FCP), selected based on the area of interest, the technical possibility to carry out the electric energy connection and to obtain property of land where the works are set to be undertaken

Implementing a bike charging and renting system (e-docking) for 10 electric bikes;

Energy autonomy by implementing renewable energy sources to feed the electric bike charging system - 1 photovoltaic charging system for bikes;

618.225.6 CHF for 1 infrastructure corresponding to the pilot electro-mobility system carried out in Suceava Municipality that means: install of charging points for electric vehicles - at least 28; parking spaces for electric vehicles - at least 56; bike-charging and sharing centres in Suceava Municipality - at least 1; photovoltaic systems in Suceava Municipality -at least 1

Through this project there will be local and national dissemination activities in order to increase the number of electric vehicles used by private owners and public institutions, to increase the number of charging points.

There will be also activities related to development of local and national markets for car dealers and companies responsible for charging points installation. Suceava Municipality will implement the car sharing concept for EV’s and will develop public dissemination campaigns in order to change public behaviour and perception regarding EV’s and to increase the number of EV’s both of local and also national level.

* 40 electric busses will operate into the district in the next 6 years
* Procurement of alternative (electrical) vehicles required for market administration, transport and merchandise distribution activities, as well as for citizens / consumers.

One interesting idea is to create the " zero emissions " products - as we would like to encourage local producers ( food , crafts ) to increase the bio production and to deliver the products by using "zero emissions " vehicles - especially to local markets located in the Centru district.

#### Solution 10: Integrated traffic signal management

The Suceava Municipality expresses the intention to apply for ERDF funds for implementation of a metropolitan public transport system (by sending an official letter of intent to Regional Development Agency). This new project will include electric busses , intermodal points and transfer facilities ( park and ride ) and also system monitoring and controlling traffic signals an time providing real time information to users on traffic conditions in order to reduce the traffic emissions and impact against environment and public health , to reduce traffic congestion and energy consumption ( especially conventional fuels ).

The Centru district that is located in the city centre is the main hub for the local public transport will benefit from the implementation of this project. It is expected that there will be an increase of the PT attractively, the number of passengers will increase and there will be a reduction of the private cars traffic volumes in the city centre.

#### Solution 11: Alternative fuel driven cars for better air quality in cities

For the action Implementation of a local public transport with electric buses and establish measures to encourage the use of electric public transport means the Suceava Municipality secured in 2013 200.000 CHF as part of a 3.112.489,61 CHF grant contract co –financed ( 80 % ) by theGovernment of Switzerland through the Swiss-Romanian Cooperation Programme. This amount will be used (in 2014) for performing the Feasibility Study and Technical Documentation which will allow the Municipality to apply for a funding scheme trough ERDF in order to implement the electro mobility concept for public transport (purchasing of 30- 40 electric buses and charging facilities for local public transport company).

Also we have to mention here that Suceava will be starting from 2016 the first Romanian city with an electro mobility project implemented (municipal electric vehicles, electric bikes and charging points).

The city centre roads infrastructure will be rehabilitated, with a 25% extension of the existing pedestrian “ zero emission “ area , there will be access restriction regulation for this area located in Centru district and only EV’s will have permanent access .

#### Solution 12: Citizen engagement for smarter use of road space

The City Urban Plan is under a redesigning process and one of the new innovative parts of this study will be an Urban Mobility Plan (for public and private companies, public transport, measures for encouraging alternative ways of travelling) . Based on the conclusion from this plan we will be able to start the implementation of other new innovative mobility projects at local level.

#### Car and bike pools in integrated mobility solutions

The new municipal EV’s will be used for promoting the car pooling concept among public servants, citizens and private companies starting from 2016.

In 2013 we finalized the construction of 10,5 km of cycling lanes into the city centre (using ERDF funds) ad in 2015 other 4,6 km will be finalized (as part of another ERDF funding project for rehabilitation of the city road infrastructure).

The construction of a 164 underground parking facility in the city center together with the rehabilitation of the main city center pedestrian area in order to create facilities for reduce traffic congestion , traffic emissions and encourage walking instead of driving - 11, 4 mil Euro - ERDF funds was accomplished in 2013.

The electric bikes which will be available in Suceava from 2015 will be used for promotion of this alternative way of traveling (among citizens and tourists) as a rental system will be developed at local level.

#### Q2 What is the business case and do financing opportunities already exist?

Currently our municipality has already finished several technical documentation (strategies, feasibility studies) for the implementation of the proposed measures. For almost all of them implementation request a technical execution project and these documents are not available yet.

For the measures like: EV’s, charging points, rehabilitation of the public lighting system, extension of the pedestrian “zero emission area“, rehabilitation of the streets infrastructure and of the main central market we do have already secured the grant contracts, the technical documentations are available and in the second part of 2015 we will expect to sign the agreement for construction works.

For other measures like: introduction of electric busses, establish of solar panels, rehabilitation of the municipal buildings and apartments buildings our municipality intention is to apply for ERDF funding.

In this case we do expect that, soon after the application calls will be open – July 2015, we will start the process of preparation the technical documentation, we will prepare the requested documents and will apply for ERDF funding in 2016.

Usually, if successful, the evaluation period is 6 -9 months, so 2017 could be the starting point for projects implementation.

Even we mentioned the ERDF funds as the main source for financing our local proposed measures there need to be also a substantial ( up to 15 % ) contribution from local budget and we do expect to have access also on central budget for the next 5 – 10 years .

Regarding technological barriers, as concepts like electric vehicles, charging points, solar panels are quite new and less developed at local and national level, we do expect to have few problems during the implementation phase. In the same time we do count on our previous experience from other European projects that created the premises for transfer of best practice and knowledge from more advanced city partners around Europe.

We do expect that the implementation of the smart measures (especially electric vehicles, charging points, alternative energy production and waste recycling) will determine a development of local and national market for the companies that are dealing with these innovative and new technologies. Also we do expect that this new technologies will determine the development of the local jobs market with benefits not only at local but also on regional and national level.

#### Q3 What is the potential implementation timeframe?

Probably next 5 -15 years.

#### Q4 How does the Smart Solution integrate with the existing and future infrastructure?

The smart proposed solution will be integrated with : local cycling and walking infrastructure ,the underground parking places , already rehabilitated part of the public lighting system ,the existing implemented measures for increase energy efficiency for apartments buildings ( reduce energy consumption ,central heating using biomass for heat and energy production ), rehabilitation of the central market and other public buildings , local sustainable mobility measures (access restriction , EV’s implementation ),separate waste collection and recycling system .

**Replication needs of Smart City Solution**

#### Q5 What user / stakeholder involvement is foreseen?

* We do have a Local Support Group created in 2009 for the EVUE URBACT project and we do expect that the group will continue to be active and involved in Grow Smarter project also. The group has representatives from public institutions, private companies, local producers, NGOs, university, consultancy companies, citizens associations, schools and high schools. This group was responsible also for production of the Local Action Plans and we will invite also other potential members to join our local group (private companies mainly).
* During the performing of the Sustainable Development Strategy there were meetings with citizens and district private companies.
* The main interest is the sustainable development of the district, the reduction of traffic pollution, increase the quality of life, reduce unemployment and create a better environment for the young generation and for future private investments in the district.
* We do expect to have a potential big interests from the young generation and possible few skeptical ideas and reaction from the oldest part of the inhabitants.

#### Q6 What are the capacity building needs for the successful deployment of the Smart Solution?

Our main inters is to find out more information, best practice example or any suggestions from the leading cities, about:

* How is it working the process of getting the political approval for a new investment with some innovative technologies like the smart measures?
* Any already successful “ recipes “ for implementation of a smart measure would be very useful for a city like Suceava which already expressed the wiliness of becoming a smart city
* We do expect to be able to learn more about the introduction of measures that conduct to improve energy efficiency and for this reason we would like to transfer the best practice and experience from the city of Barcelona , not only for the rehabilitation of the residential and municipal buildings but also in being able to develop facilities at local level for “ technological parks “ for companies which will invest in new green technologies in order to develop the local market and to create new jobs
* One of our smart measures is in connection with the lighthouse cities measures like Home Energy Management Systems that will be installed in a pilot residential and municipal building, visualizing and manage energy consumption.
* City of Stockholm and the measures to be implemented in this project is a very reliable example of a “ state of the art “ example for mobility management and actions to avoid traffic congestion and to reduce traffic emissions .Our goal in this project is to transfer the best practice from Stockholm mainly in connection with the cycling facilities and traffic management and before these in connection with alternative solution for public transport ( biogas or electric busses ) in order to increase the number of passengers, reduce the car dependency , avoid traffic congestion and change people’s behaviour regarding mobility habits
* The aim of Suceava city measures is to replicate the lighthouse city experience (Stockholm in this case) in order to substitute the car in other trips, that are less regular and more individual.
* Our goal is to offer different and alternative solutions completing the existing public transport network like bike pools, e-bikes, EV-pools.

We consider that a successful preparation of the follower cities for replication of the smart measures involved meetings with both representatives from the public sector (procurement, technical, economic and design) and with representatives from the private sector (consultancies, constructors, car dealers, retailers, providers for technologies and equipment).

Beside of these we consider that future links between local private sector and the same one from the lighthouse cities could contribute to development of local and European market but in the same time could facilitate the implementation and transfer of smart measures to the follower cities.

Of course that the site visits to a power plans or a recently refurbished neighborhood could be useful for us but in the same time we do consider that there is a strong demand in a cooperation between follower cities which can benefit each other and also provide necessarily technical support during the replication of smart measures process .

#### Q7 What secondary effects do you intend to achieve with the implementation of the smart solution?

Implementation of the new smart technologies (such as EV’s and alternative energy sources) could contribute to the development of local job market, increase the quality of life in the district, make the area more attractive for new business and reduce the environmental impact.