

DEVELOPMENT OF BRAILA MUNICIPALITY -SMART CITY

PhD. Lecturer Angelica BRATU

"Constantin Brâncoveanu" University of Pitesti
Faculty of Management Marketing in Economic Business Braila
E-mail: angelicabratu7@gmail.com

Abstract: In the article "Development of Braila Municipality - Smart City" I will try to present all the measures adopted so far by Braila Municipality in order to implement until 2030 the "Smart City" Program launched by the Ministry of Communications and Information Society. The "Smart City" program, launched by the Ministry of Communications and Information Society, implies the optimization of cities through technology. The use of new gadgets and the online environment aims to increase the quality of life of citizens by creating a healthier, more educated, less expensive city, open to new business investments and with citizens actively involved in the process of public administration. The ultimate goal of this project is the full integration of smart technologies in all spheres of activity of a city. The "Smart City" program launched by the Ministry of Communications and Information Society involves the optimization of cities through technology. The use of new gadgets and online environment aims to increase the quality of life of citizens by creating a healthier, more educated, less expensive city, open to new business investments and with citizens actively involved in the process of public administration. The ultimate goal of this project is the full integration in all spheres of activity of a city of smart technologies. Braila - the gateway to Europe, an important economic, medical, educational pole, supported by a modern infrastructure and in continuous modernization and a developed partnership environment, with a sustainable economy developed through innovation, tradition and resource development, attractive to investors, cultural and tourist center, modern and with a democratic multiethnic community has proposed and achieved a considerable proportion to develop services for its citizens. Thus by simply accessing its own online platform can be identified in the Smart City section of the following online services available.

Keywords: smart city, regional development, local development, quality of life.

JEL Classification: F63, F64.

1. General coordinates on the smart city concept

In the elaborated framework of the 'Smart City' program, smart technologies are defined as programmable components or sensors with the ability to connect to the internet that aim to collect, transmit and process data.

In the area of services for citizens or business, the services that fall under the smart component are those provided to the public through the technologies described.

Based on these definitions, smart communities are defined as localities in which smart services are used to identify and meet the requirements and needs of the citizens and the business environment of the area.

2. Basic principles

In order to be labeled smart, a community must respect the following principles:

- respect for the environment and life in general;
- respect for the law, the community and its members;
- the judicious use of available resources and recycling where possible;
- reducing dependence on finite resources;
- increasing the active involvement of community members in solving community problems;
- ensuring sustainable, coordinated and rational development at individual and community level.

3. The current status of the implementation of the smart coordinators in Braila municipality

Referring to the coordinates defined above, the current status of the implementation of the smart city concept within the Municipality of Braila is made by referring to key areas in the city infrastructure including aspects of the public utility networks and their structure, particularities of the transportation network, elements of public administration and the relationship with the environment

A. Electricity network

Municipality of Braila has completed the modernization of public lighting:

- 12,736 LED luminaires have been installed
- Reduced electricity and maintenance costs for street lighting infrastructure
- CO2 emissions reduced
- Implemented remote management of lighting points (dimming)

Dimming:

- Turning on/off and dimming (dimming level) individually or by zones
- Programming luminaire operating profiles (on/off, light intensity) for different time periods

Telemanagement

- Display the lighting system configuration in a tree structure, by levels: city, neighborhood, street, streetlight, light point
- Evaluation and display of electricity consumed, per luminaire and per group of luminaires
- Graphical display of the variation over time of the parameters of each luminaire: voltage, current, power factor, temperature, power consumed, number of operating hours and energy consumed

- Easy maintenance, as the application is web-based

Braila City Hall won the Trophy of Excellence in Public Lighting at the Gala of the Association of Romanian Municipalities organized under the patronage of the President of Romania on 06.11.2017, being the first municipality in Romania to modernize public lighting using entirely LED lighting fixtures.

The public lighting modernization project falls into the category of smart solutions in the field of energy through the technological innovations brought to the operating and control system.

B. Water supply network

Information on the NAIADES Project is available on the BRAILA DUNAREA BRAILA CUP website.

Since June 2019, CUP "Dunărea" Brăila is participating in the European Project entitled NAIADES - "A holistic water ecosystem for the digitalization of the urban water sector" - part of the HORIZON 2020 Programme - Framework Programme for Research and Innovation 2014 - 2020, a project that was planned to run for a period of 36 months, starting from June 2019 until 01 June 2022, with a subsequent request for an extension until 30.11.2022. The NAIADES ecosystem facilitates the transformation of the water industry through automated and intelligent water resource management and environmental monitoring, providing a high level of water services to residential and commercial consumers, leveraging the efficient use of the physical and digital components of the water supply ecosystem.

Participants in the project are research centers, higher education institutions and telecommunication companies from countries such as Greece, Ireland, Germany, the Netherlands, Estonia, Switzerland, Spain, Slovenia and Romania, which are brought together to develop innovative hardware and software technologies with application in drinking water services (e.g. Centre for Research and Innovators with applicability in drinking water services (e.g. Centre for Research and Technology-Hellas, KONNEKTABLE Technologies Ltd, Mandat International, UDG Alliance, Asociación de investigación metalúrgica del noroeste, Institute of Communication and Computer Systems, Jozef Stefan Institute, Advantic Sistemas y Servicios S.L., SIVICO Romanian SA, Disy Informations Systeme GmbH, IHE Delft Institute for Water Education, IBATECH Tecnología S.L., Guardtime AS, Vrije Universiteit Brussel, Eurecat Technology Centre and the 3 pilots operating in the field of public utilities Aguas Municipalizadas de Alicante, Empresa Mixta Spain, Ville de Carouge Switzerland and CUP "Dunărea" Brăila.

The non-reimbursable value of the Project allocated to the Public Utility Company "Dunărea" Brăila is 108.500 euro, within the project the following were purchased and installed:

1.4 continuous water flow monitoring equipment (flowmeters) to determine the quantities (hourly, daily, monthly, annual) of water supplied to consumers within the designated monitoring area (Radu Negru neighborhood).

2. 4 equipments for continuous monitoring of drinking water pressure in the distribution system;

3. 4 equipment for monitoring noise on drinking water pipelines Within the NAIADES project, the Public Utility Company "Danube" Brăila aimed to improve the operational control of the water distribution network by monitoring and forecasting water demand in order to correctly estimate the water balance (water supplied and losses) and to reduce the current level of water losses by monitoring pressure and noise on the water supply networks

C. Public transportation network

The Brăila Public Transport application is available both on the Braila City Hall and SC Braicar SA websites.

The Brăila Transport Public application can be found at: www.braila-transport.com and then, depending on the operating system of your phone (Android or IOS), choose Google Play (for Android) or App Store (for Apple). The app is free.

Get easy access to the lines, stations and places where you travel and visit frequently.

"Brăila Public Transport" guides the traveler to a chosen destination, anywhere in the city in the easiest and fastest way. One can get travel directions for optimal routes by bus, tram, or a combination of them.

Get updates when there are changes on your preferred lines and waiting time at the station, if there are traffic jams or accidents delaying your arrival at the station.

Purchase travel tickets: You can purchase travel tickets and activate them when boarding the means of transportation by providing the details of a valid bank card.

On the SC BRAICAR SA website there is information about the modern fleet.

Fleet modernization

The bus fleet has been modernized with 16 KARSAN ATAK and 4 KARSAN JEST buses, equipped with air conditioning, heating and ventilation system and interior audio-video announcement system for citizens, regarding the routes.

Good news for Braila's citizens who travel by public transport of S.C. Braicar S.A. Braila. The company is modernizing its fleet with four modern buses that will run on routes in the municipality.

The company's new acquisitions for the fleet meet current European Union standards in the field of urban passenger transport. The buses have air-conditioning, heating and a platform that provides access for people with disabilities according to the standards.

Safety and comfort in public passenger transport is one of the main priorities on our agenda, which will bring satisfaction to citizens. Moreover, permanent checks will be made in vehicles, in order to detect those who create discomfort and problems for our citizens.

Features:

Motorization Euro 5

Ramp for people with locomotor disabilities

CCTV video monitoring

D. Relationship with the environment

One of the key points that must be fulfilled in order to include a city in the smart city category is care for the environment. In this area, the program promotes the implementation of solutions on the following themes:

- reducing urban pollution;
- selective collection, selective transportation and selective processing;
- consumption efficiency in waste transport and storage;
- implementing the principles of circular economy.

At the level of Braila Municipality, these themes are implemented through the existing ADI ECO DUNAREA BRAILA and the purchase of electric public transportation.

In the "Air quality plan for azot dioxide and azot oxides (no2/nox) in the municipality of Brăila" approved by decision of the Braila Municipal Council every year the fulfillment of this objective of environmental protection is monitored.

4. Conclusions

The Local Development Strategy includes all the strategic aspects regarding the social, economic and administrative elements that have a direct impact on the development of Brăila Municipality and on the quality of life of the citizens. The present section contains the main conclusive aspects as a result of the data collected and presented in the previous chapters.

In this context, as a result of the research carried out, the following conclusions can be highlighted regarding the current situation recorded at the level of the municipality from the point of view: demographic, economic, social, educational, touristic,

- active population, in Brăila Municipality finding more than 80% of the average number of employees in the county, population dynamics that is however threatened by an accelerated rate of population aging and a low share of young people attending higher education courses in institutions in the municipality;

- a local economy in full development, the number of companies increasing by approximately 3%, but there is the risk of hypertrophy! to a single economic sector, the trade

and repair of motor vehicles gathering 3.7 times more companies than the next economic field placed in the municipal hierarchy;

- an infrastructure of the health system that constitutes an optimal starting point in the development of this sector, at the level of the municipality there are four hospitals, 88 medical offices and a transfusion center. A worrisome aspect is revealed in the situation of employees in the medical system, observing a decrease in the number of doctors in the public system, they choosing to go to another city or moving to the private system;

- in the area of education and training, there is a downward trend both in terms of the number of educational units, but also in the number of enrolled students. With 13% less in 2018 compared to the beginning of the analysis, the decrease in the number of students may be due to population migration or the low birth rate. However, a favorable aspect can be noted in terms of professional education, the number of those enrolled in this form increased 6 times, constituting, compared to the period of analysis, an approximately 542% higher share in 2018;

- tourism and cultural heritage enjoy the active involvement of local authorities in this area, with 127 cultural, artistic, educational and sports events planned for 2020. However, the field presents deficiencies at the level of tourism infrastructure, the number of accommodation units being decreasing or non-existent when it comes to the "low-budget" sector. However, there are numerous opportunities for the development of this sector given the abundance of natural areas that are insufficiently exploited by the dimensions of modern tourism (ecotourism) and by capitalizing on urban tourism;

- improving the existing urban mobility system, a strategic objective to be achieved through the modernization and expansion of the transport system (with an emphasis on the development of ecological transport), the expansion of the car fleet used in public transport, the establishment of recharging stations for electric vehicles;

- protecting and preserving the environment, by developing an infrastructure that is friendly to the environment, with as little negative impact as possible, through information actions and awareness of the importance of preserving the environment.

"An Attractive City" - through:

- the development of tourism at the level of Brăila Municipality, a strategic objective that can be achieved through: the development of ecotourism and educational tourism, the modernization of the tourist infrastructure;

- capitalizing on the cultural dimension of Brăila Municipality, by modernizing and rehabilitating buildings from the local cultural heritage;

- increasing the administrative capacity of public institutions in the Municipality of Brăila, by improving the skills and services offered by the employees of public institutions;

"An Inclusive City" - through:

- increasing the quality of the educational system at the level of Brăila Municipality, a strategic objective that can be achieved by improving the educational infrastructure;

- improving the quality of life of the citizens of Brăila Municipality, through: the regeneration and modernization of urban areas, the creation of protection and safety measures for citizens;

- the development of the medical system, by expanding the health infrastructure at the level of marginalized areas;

- improving the social system, by: protecting rights and reducing social exclusion among groups at risk, designing effective social services for vulnerable groups;

"A Smart City" - through:

- the fruition of the advantages of digitization, for the benefit of citizens at the level of Brăila Municipality, a strategic objective that can be achieved by: improving public safety, expanding and modernizing the traffic network and public transport, strengthening public services;

- supporting economic and entrepreneurial competitiveness, by developing the infrastructure of the local economic environment.

In conclusion, the Local Development Strategy elaborated at the level of Brăila Municipality aims to ensure an integrated urban development, respecting the principles of sustainable development, in social, economic and ecological terms and with a significant impact on the standard of living of the local community, aiming for the fastest possible transition to a successful smart-city model

References:

1. Brăila City Hall, 2016. *Integrated Urban Development Strategy of Brăila Municipality*. Brăila: Brăila City Hall.
2. Brăila City Hall, 2024. *LED lighting*. [online] Available at: <<http://www.primariabr.ro/iluminat-led>> [Accessed 2 July 2024].
3. Brăila City Hall, 2024. *Smart City*. [online] Available at: <<http://www.primariabr.ro/>> [Accessed: 20 February 2024].
4. Deseuribraila.ro, 2024. *Integrated waste management system in Brăila county (n.d.)* [online] Available at: <<https://www.deseuribraila.ro/>> [Accessed: 2 April 2024].
5. Ministry of Communications and Information Society, 2016. *Why Smart City?* [online] Available at: <<https://www.comunicatii.gov.ro/smart-city-concept-2/>> [Accessed: 7 February 2024].
6. Ministry of Communications and Information Society, 2016. *Smart City for Smart Communities – Towards the Future*. [pdf] Available at: <<https://www.comunicatii.gov.ro/wp-content/uploads/2016/12/Ghid-Smart-City.pdf>> [Accessed: 7 February 2024].
7. SC Braicar S.A., 2024. *Historical*. [online] Available at: <<http://www.braicar.ro/istoric.html>> [Accessed: 4 February 2024].