PROBLEMS WITH SMART URBAN PLANNING IN BULGARIA

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ABSTRACT

The presentation of the problems of smart urban planning on the territory of the administrative-territorial units in Bulgaria requires attention to be paid to the development and application of information and communication technologies in the country, which play a major role in addressing the challenges facing the development of the smart cities of the future. The topic of smart urban planning globally is due to the fact that the majority of the world's population lives in cities, given that the process of depopulation of rural areas continues at the expense of increasing urban population, we can note that about 70% of the world's population now lives in the cities. The result of this process is an increase in the size of urban agglomerations, which necessitates the use of modern technologies as the only means without alternatives in the planning and management of smart cities in the future. For the creation of smart cities in individual countries, a globally coordinated approach should be used, as well as the development of internationally standardized technologies, which will enable better integration and interoperability of information and communication technologies in urban planning, which in turn, it will create an opportunity to achieve regional economic and catch-up growth for the lagging regions. The process of developing international standards related to the harmonization of information and communication technologies, as well as the implementation of policies for the implementation of best practices in the smart planning for the development of the smart cities in the future, necessitate rethinking the main indicators for assessing the impact of information and communication technologies for the development of cities and regions in individual countries.

Keywords: smart cities, smart urban planning, regional planning, regional development

INTRODUCTION

Smart city planning should not be seen as city planning packed with information and communication technologies, because technology is a tool as well as a tool for creating an intelligent comfortable urban environment. In this context, when it comes to smart urban planning, one should understand the planning of smart cities based on knowledge and using modern technologies in order to create economically, socially and environmentally balanced development of cities aimed at ensuring a decent living for the present and future generations. That is why in the course of the planning process, continuous monitoring of the main infrastructural objects relevant to the sustainable environmental development of cities is to be carried out, namely monitoring of the construction, maintenance and operation of highways, bridges, tunnels, railway lines, subways , airports, seaports, communication systems, water supply, electricity supply, etc. with a view to creating an opportunity for optimal allocation of resources, which must be based on the use of modern information and communication technologies and be in

line with the continuing trend of increasing population and the need to provide the necessary services for urban life. A crucial part of the policies for smart urban planning is „the reduction of vulnerability, which is related to the susceptibility of human development: human life, economy, social organization, and the physical aspects of the environment. Although public and economic vulnerability are perceived as the most important components of vulnerability, it is very important to take into account the significance of the biophysical basis for human life - the environmental and physical aspects of vulnerability and to deal with them in an integrated way. The vulnerability is integrally analyzed by its factors (exposure, susceptibility and resilience) and dimensions (social, economic, environmental and physical). The integrated vulnerability of a territory is measured as a combination of the factors listed above. All of them can be represented by a set of indicators, whose selection should be reasonable and well-grounded. The set of indicators should allow measurement of the vulnerability factors for each of the vulnerability dimensions"[1]. „The social vulnerability represent the socio-economic aspects of vulnerability, for instance, demographic structure of the population (age, education, occupation, awareness and access to information, family structure, etc.), organization of the population and communities, etc. The cultural-political vulnerability is related to the cultural heritage exposed to risk (physical and metaphysical cultural wealth), and the institutional strength of the political systems (trust in governmental structures, governmental support to disaster risk management, transparency of policies and systems, etc.). The economic vulnerability deals with the exposure of economic activities at risk, e.g. spatial location of economic activities, production of goods and services, etc. Environmental vulnerability reflects the fragility and exposure of natural elements at risk: ecosystems, protected areas, sensitive environments such as forests, wetlands, biodiversity, etc. The physical vulnerability represents the strength and design features of key infrastructural elements at risk, i.e. critical infrastructure (emergency reaction centres, shelters, medical facilities, social and cultural meeting points, etc.), transport infrastructure (roads, railways, airports, harbours, etc.), and facilities and life lines (supply and communication networks, etc.)[2]. Often, when designing a smart city, monitoring of the city management system, which is the result of interacting systems and standardization between them, has to be carried out, since modern technologies used and defining the city as smart are high-speed optical, sensor, cable and the wireless networks needed to realize the competitive and comparative advantages of a smart city by building intelligent transportation systems, smart grids and smart home networks. This is precisely the difference between the smart city and the traditional city, since the ordinary city services based on information and communication technologies cannot respond as quickly to changing economic, cultural and social conditions as the smart city services that can and the result of the creation of self-study information and communication systems. The smart city is based on the development of information and communication technologies and the construction of the necessary infrastructure for their development, while at the same time respecting and taking into account the growing contemporary requirements for environmental and economic sustainability of cities and regions.

PARTICULARITIES IN THE DEVELOPMENT OF SMART CITIES.

New cities can easily be turned into smart cities, because in the process of planning, designing and construction, the modern requirements of time are laid, as well as the steps that can turn an ordinary city into a smart city are implemented. Taking into account the

current pace of innovation development, we can expect that the smart city model will, in addition to becoming widespread, become a real and popular strategy for urban development of the 21st century, despite the fact that construction projects are currently underway smart cities differ and in some cities attention is paid to maintaining the environmental sustainability achieved through rational organization in the life of the city through the use of new technologies to reduce the emission of harmful gases into the atmosphere and efficient use of energy. While in other cities, projects involve the transformation of traditional urban functions into "smart" ones, through the use of information and communication technologies in all possible aspects of citizens' lives. One of the major features in the development of smart cities is due to the different priority goals and objectives, notwithstanding that smart cities generally have three main characteristics. The first feature relates to the creation and maintenance of a secure and secure high-tech and communications infrastructure to deliver new services in smart cities. The first characteristic is the next one, namely the existence of a well-established and integrated management system based on and consistent with the implementation of uniform standards. And the third feature is targeted at users of smart city services, who need to focus their efforts on building the necessary competencies and awareness of the use of smart services introduced, since in the cities the concentration of population of different categories and age groups, social strata with varying levels of income are high and involve planning for additional resources and taking steps to increase access to smart devices for all.

TAKING MEASURES TO MANAGE SMART CITIES.

The use of information and communication technologies in smart cities is especially evident when taking measures to manage the intelligent movement of the population, which measures are based on the ability to provide citizens with information on all modes of transport and make informed choices about their mode of transportation. As often the reasons for not using public transport are rooted in the bad reputation of this mode of transportation. This is precisely what has required the implementation of design-related projects to pay attention to the development of integrated travel plans that provide information on ways of traveling with different modes of transport to a particular site, which in fact reflects on the concept of carpooling, cars, scooters, bikes, etc. In addition, more and more attention is being paid to the use of eco-friendly travel campaigns for businesses and individuals in order to provide preferential rates or free urban transport tickets to encourage people to use them. The basis of the measures introduced is related to the search for the possibility of reducing car traffic and the negative effects of vehicles such as noise, emissions, fine particulates, but also the need for parking spaces can be reduced through traffic management measures. It is precisely the creation of an opportunity to influence the links between smart urban planning, transport and parking policy that is a prerequisite for the introduction of movement management measures that can be stimulated through concrete changes to the current tax system. In general, the introduction of specific measures implies a study of the specific needs of target groups in the field of intervention, and the surveys can be carried out through various surveys related to the study of urban traffic and possible ways of moving. Then, an analysis and evaluation of the current state of traffic should be made, which includes determining the main passenger flows, collecting public transport data, reviewing general movement behavior of the population, etc. The actual study of travel behavior, in addition to travel behavior, namely the number of daily trips, routes, travel time, modes of transportation,

preferences, should be based on the hierarchy of quantitative factors of each of the travel modes and the main problems that result from them. Taking a snapshot of travel problems requires the collection of socio-economic data that can be compared with working hours and workloads. The identification of problems related to population displacement necessitates comprehensive studies in order to analyze the experience of applying the same measures in other cities in the country, as well as to study foreign practices as a whole. In addition, when it comes to smart urban planning, it must necessarily evaluate the technologies that will be used, as well as an analysis of the options for securing long-term funding and, last but not least, an assessment of the existing legal framework and mainstreaming global trends towards smart cities for the future. A key measure in smart urban planning should be the creation of the concept of building an intelligent city, which should include, first and foremost, the possibility of establishing an organizational structure for managing the movement of the population in the city, and then consider possible solutions related to with the activities in place and on this basis the choice must be made regarding the required operating system, the specific initiatives, and the necessary technical efforts related to the introduction of intelligent systems in urban management, etc. Problems with the implementation of the planning process may include, first of all, the development of basic tools, taking into account existing and future services, such as accessibility and parking management in busy central urban areas, integration of public transport schedules, etc. On the other hand, the difficulties of smart planning are related to the determination of quantitative and measurable indicators to show the level of change. „Cities are centers of modern societies and civilization. They create a lot of value, but a lot of resources are consumed. The city itself is a multifunctional and complex object that can be represented as a demographic, ecological, transport, administrative-territorial and industrial production system. Unlike a conventional city, the smart city actually means a "digital" city - a concept that has so far no unambiguous definition. Experts' views, however, are united in the fact that a smart city should not be perceived in the narrow sense as a city packed with technology. The technologies in this case are rather a means of achieving a common goal, namely the creation of a comfortable urban environment. Structurally, the "smart" city is a system of interacting systems. Such interaction of a huge number of systems requires openness and standardization, which are the basic principles of creating smart cities. A "smart city" project, lacking openness and standardization, is soon becoming clumsy and expensive. Some of the technologies involved and defining smart city are high-speed optical, sensor, cable and wireless networks necessary for the realization of the benefits achieved thanks to intelligent transport systems, smart electrical networks and smart home networks[3]." The adoption of the knowledge as a resource, such as the material, energy and financial resources of the enterprise, as well as its optimization and utilization, provide a competitive advantage for the organization. In addition, knowledge is a highly liquid resource that can easily be transferred to a product and / or traded, but is an asset that ages rapidly in today's dynamic conditions of development of science and information and communication technologies, which determines the need for permanent investment in training and enhancing the skills and competencies of the employees of each organization in order to increase competitiveness. A turbulent environment requires and forces the organization to generate and have the necessary knowledge to be flexible and to have the ability to react quickly and adequately to emerging changes. The accumulation of knowledge in the organization is the result of the ongoing process of training and

accumulation of experience by the organization's employees, but they can be lost immediately by leaving, retiring or "internally displacing" capable employees. The transformation of knowledge into assets requires, it to be preserved, shared and transferred, integrated into the business processes, management practice and culture of the organization[4].

CONCLUSION

Smart cities planning should reach the planning stage of "knowledge cities" as they need to be expanded through the use of good practices gathered in the smart city and increase the return on investment, which is why local authorities, along with others institutions concerned, namely business, universities, non-profit organizations, as well as citizens themselves, must focus their efforts on making an smart city an inclusive city or a "knowledge city", that can to be achieved through the implementation of specific smart projects aimed at overcoming the spatial hierarchy and the division of central and peripheral regions through integration in the field of smart urban development and achieving dynamic urban growth through the use of information and communication technologies in their quest to build "smart city". „Economic cohesion is an essential element for the development of the Bulgarian economy. The main orientations of cohesion on science, innovation, the development of small and medium-sized businesses, information technologies are important for all economic sectors. Scientific and technological progress does not accidentally give the greatest added value in the development of new products and leads to cost optimization. Before that, however, the construction of appropriate infrastructure - manufacturing bases, highways, science centers, roads, etc., is urgent and should cover the whole country. The development of small business is very often defined as the backbone of the economy, as there are mostly people employed in family businesses and small settlements. As presented in this article, they account for about 92% of businesses in Bulgaria. This is naturally dictated by the lack of a uniform investment policy in all centers. The factors for this are many and different, but the most important is the demographic problem and the lack of skilled labor. In this regard, attention should be paid not only to the village-city connection, but also to large and small towns[5]“.

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