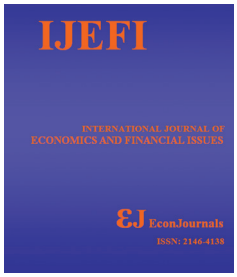

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Smart City as the Basic Construct of the Socio-economic Development of Territories

Rustem A. Shichiyakh[1], Denis A. Klyuchnikov[2], Svetlana P. Balashova[3], Sergey N. Novoselov[4]*, Natalya N. Novosyolova[5]

[1]Kuban State Agrarian University, Krasnodar, Russian Federation, [2]Far Eastern Federal University, Vladivostok, Russian Federation, [3]Altai State University, Barnaul, Russian Federation, [4]Moscow State University of Food Productions, Moscow, Russian Federation, [5]Institute of Service, Tourism and Design (Branch) of North-Caucasian Federal University, Pyatigorsk, Russian Federation. *Email: nnn-nauka@yandex.ru

ABSTRACT

The relevance of this topic is that any self-respecting city needs a development strategy that develops on the basis of the ideal representations of the future and opportunities. All of the city strive to achieve two fundamental goals. The first is to create a high-quality living environment, which is dictated by growing competition for investment and brains. The second objective - to ensure sustainable development, i.e., the search for the integrated (economic, social, transport, energy, environmental, etc.,) model, which would guarantee a dignified existence for at least several generations of citizens. Currently in addressing the challenges of economic modernization and innovative development of Russia a key role to be played by information, knowledge, the widespread use of information and communication technologies, the problems of optimum use of natural resources and ecology, as well as the formation of the social environment, designed to provide optimal conditions for the work of participants the innovation process (Shkurkin et al., 2016). In this context, the problem of creating smart cities is today one of the most pressing. Background of the idea of "smart" city and its development: Increase in workload infrastructures.

Keywords: Economic Development, Regional Development, Smart City, Infrastructure, Resources
JEL Classifications: O13, R13

1. INTRODUCTION

"Smart" can be a new city, which immediately created a "smart," or the city, formed for a specific purpose, such as, for example, industrial cities, science, city or technology parks, or, more often, ordinary city, which step by step are "smart."

The following objective interpretation of the category "smart city," is to provide a modern quality of life through the use of innovative technologies that provide cost-effective and environmentally friendly use of the city's life support systems.

"Smart City" is a "smart" control, "smart" accommodation, "smart" people, "smart" environment, "smart" economy, "smart" mobility.

In the XXI century, the state of the urban environment is determined not only by the presence of infrastructure, "smart city" need smart solutions that provide high quality new development.

"Smart City" may be defined as a "city of knowledge," "digital city," "cyber city" or "eco-city" - according to the urban planning. "Smart" cities in the economic and social aspects are directed to the future. They conduct constant monitoring of critical infrastructure - highways, tunnels, railways, subways, ports, bridges, airports, communications, water supply, power supply, even the most important buildings - in order to optimize resource allocation and security. They are constantly increasing the number of services provided to the population, providing a stable environment that promotes well-being and preservation of the health of citizens and saving personal time. The basis for these

services is the infrastructure of information and communication technologies.

The structural aspect of "smart" city - it is a system of interacting systems. Such interaction requires a huge number of systems of openness and standardization, which are the basic principles of the creation of "smart" cities. The "smart" city, which lacks transparency and standardization, will very soon become cumbersome and costly. By components of "smart" city include high-speed optical, sensor, wired and wireless networks, necessary for realization of such benefits as provided through intelligent transport systems, "smart" power grid and the organization of industrial and home networks.

The basis of the study served as a modern scientific approach to the study of the features of socio-economic development, the service sector in the urban economy developed in line with the system of research, in the framework of synergetic paradigm of modern science, taking into account the conceptual results of the evolutionary and institutional economics, the theory of economic transformation, strategic management theory, social economy theory.

2. DISCUSSIONS

In practice, allocate 8 major components of "smart city:"

1. Energy
2. Water
3. Transport
4. Security
5. Services
6. Integration
7. Government
8. Residents
9. Eco-system.

The main difference between the "smart city" of the city is the traditional nature of the relationship with the citizens. In a typical city services based on information and communication technologies are not as flexible to respond to changes in economic, cultural and social conditions, as a service in the "smart city." Thus, the "smart city" primarily focused on the person, based on the infrastructure of information and communication technology and the continuous development of the city with a constant regard to the requirements of environmental and economic sustainability (BN-Gazeta, 2015; Bozhenov, 2012).

The whole building "smart cities" effectively conserve heat, and even generate energy, and all departments are combined into a single system that allows them to work more smoothly. One of those cities was the Japanese city of Fujisawa, who in 2010 built on the territory of the former Panasonic factory. On 19 hectares have already built and bought about 100 homes. Each of them is equipped with solar panels and power generators to natural gas, which makes the settlement very energy efficient. All the houses are combined into a single network, and the resulting energy is redistributed between them automatically. It is estimated that, if the city is disconnected from external power sources on their own eco-resources he can hold out for 3 days.

Another aspect of "smart cities" is a well thought-out transport system. One approach - allow passengers to track the movement of buses, trams and the underground in real time and thus more accurately plan their trip and to save personal time. This system is gradually being implemented and we Krasnodar. At bus stops have electronic displays can be seen, which indicates the time until the arrival of buses and trolleybuses following this route, or track the location of the transport and traffic jams on the road using a smartphone.

More technological approach to moving around the city can be seen in Nevada, USA, where "Google" and "GM" released in city cars, which are able to move in a stream of cars to keep a distance, to avoid accidents and to park without the driver - with the help of GPS and multiple sensors. In the future, such cars, the combined network will be able to improve the situation with traffic jams and make driving safer, because the head center will know where all the members of the movement, where they go and at what speed.

In addition, the "smart city" - it is also the services. And, perhaps even in the first place. The penetration of broadband access in the network to each home allows you to do a lot of things, without leaving home. Such services, with which you can pay utilities, parking, fines, register a special technique, make an appointment with your doctor to see information about the visit and the child nutrition at school, kindergarten, hospital, camp resorts to apply for marriage registration change the passport and even change name (Titiova, 2012). Buy tickets for any transport or theater restaurant reservations arrange the sale of real estate. This, of course, not all possible, and the list is gradually updated. They greatly simplify our lives, and no longer need to stand in long queues or go to the other end of town.

In the US city of Chattanooga is now solved the problem of those who cannot leave the house to seek medical attention or who simply do not have time for this. Now, any of its inhabitants, which has a TV and a web camera can consult doctors remotely. With the help of wireless sensors can measure your blood pressure and temperature, and this information will appear on the display TV, as well as will be known to those skilled "on the other end." And if the case is not severe, the doctor may be limited to inspection by a webcam and then prescribe the necessary medication. Now you do not have to go with the temperature on the other side of town or looking for one to leave the children.

"Smart City" should be healthy. New technologies and solutions can help in this matter. For example, in many cities, where climate allows, on the roofs of buildings placed solar panels and planted in live trees and bushes provide care for them. Perfect solution for big cities to become more green (Yarosh, 2013). A study conducted in 2005 at the University of Toronto showed that greened roof also help to reduce heat loss and the cost of heating buildings in the cold season.

Green roof also contributes to a significant reduction in air pollution and enriching it with oxygen, which in turn increases the comfort of living in the city and reduce the number of diseases, especially asthma. It should, however, remember that the plot of

roof lived several times longer than usual, because the vegetation protects itself and the roof, and the membrane layers from the effects of weather conditions and UV light, which is usually easily cover the increased initial costs of planting (Yakovlev, 2016).

What is the "smart city" without "smart home"? From intelligent climate control finishing appliances that understands you perfectly, in the "smart house" all aimed at trying to make it the most comfortable place in the city. Such platforms as smart things, allow to "teach" your home many useful commands; you can follow everything happening in your absence, and manage their home, even at a distance of many kilometers. For example, the door automatically closes behind you, when you leave for work in the office of the sensor will signal if someone came into the room without your knowledge, and the collar of your dog will tell if all of a sudden it will be on the street without your supervision takes place cleaning home, washing, cooking food.

All of the described special cases of the use of "smart" technologies in modern cities - it is only just a small part. In the shadow left and surveillance, and "smart" household appliances that save energy, and manufacturing automation. Just not listed. In cities like Fujisawa new ideas are being tested and then put into practice on a large scale and has long been existing cities. Moreover, changes are taking place quietly (Shchetinin, 2012). Much of what we now consider commonplace today, even 20 years ago, it seemed something fantastic. More often look back to see the difference, and once we do find ourselves in the smart city of the future.

The constraints affecting the development of "smart cities." In a world of thousands of projects realized by the creation of "smart cities," but there are still obstacles related to technology, finance, politics and participation of consumers. It requires a quick answer to the question of how to reduce these barriers through education and advocacy. You need to create a road map indicating the most effective way of further development.

Projects of "smart cities" can not only improve the lives of citizens in Russia, and will continue to enhance the investment attractiveness of the country as a whole. However, factors such as the embezzlement of public funds, deficit financing and administrative obstacles impede the transformation of cities into "smart."

Among the administrative difficulties that impede the transformation of cities into "smart" - low qualification of state and municipal employees, and industry experts (Veber, 2014). Decisions taken by the authorities without regard to urban development strategy, passivity of local authorities and service companies. The strong influence of natural monopolies hinder the liberalization of relations, particularly in the utilities and energy, and helps to reduce tariffs and prices.

Another problem - the attraction of investments. The funding of such projects as the "smart city" can be at the expense of budget funds, banks and funds, as well as through public-private partnerships. Despite the relevance of the topic of new technologies, implementation of practical steps in this direction is hampered by existing legal barriers, which cannot create sufficient motivation to attract investment from the private sector. A very important issue may be lack of awareness of potential investors who are simply poorly understood, a big step into the future we can do, thanks to the "smart cities."

Another problem is the fact that the intelligent technology, which will be entered in the "smart city," represent a new segment, which is in limited distribution force causes mistrust on the part of individual stakeholders, including regulatory authorities, and entails certain risks.

Finally, the role played by the quality of the city's population - with a low educational level and high-crime systems and elements of the "smart city" can come into disrepair due to misuse and vandalism.

Digital communication systems, greater detail and frequency information becomes available about the consumption patterns create problems related to cyber security and violation of abuse of personal data, it would not be welcome in our country (Leviev, 2015).

In the long run, there can be problems associated with lack of skills necessary for the design, construction and implementation of new technologies. Because technology is constantly moving forward, the main obstacle in the way of "smart cities" today sees the specialist that programmers and scientists cannot work as fast as technology goes forward. In the future, scientists see the problem when, in the future, each user will be on their own with the help of special bots create it needs at the moment application. It will be enough just to describe the problem as accurately as possible, so that your computer is successfully solved it.

Existing projects of "smart cities" are different. In Amsterdam, focuses on enhancing environmental sustainability through more rational organization of work, the use of new technologies to reduce harmful emissions into the atmosphere, more efficient use of energy. In other cities, measures are being taken to convert a wide range of urban functions in "smart," using the ubiquitous "smart" technology in all aspects of life of citizens. Two examples of such a strategy may serve as the project "City of electronic integration" - "U-City" in the Republic of Korea, began its implementation in 2004, as well as the project "Deutsche Telekom" - "T-City" in Germany, whose implementation started in 2006. The "Smart Seoul" is carried out with a view to transforming the city management in a "smart" and to improve the quality of life of citizens.

In different cities are put different priorities and objectives, but "smart" cities are the three most important features. The first - the availability of ICT infrastructure. Secure ICT infrastructure future generations is of utmost importance for the success of new services in the "smart cities" and to ensure preparedness for future demand for new services. The second - the city should be established clearly built and integrated management system. Numerous systems of "smart" cities will operate smoothly only on the basis of strict compliance with the same standards. The third - in the "smart city" should be "smart" users. ICT - a means

to ensure the functioning of the "smart city," but they are useless in the absence of competent users who are able to interact with "smart" services (Ferraz and Ferraz, 2014). "Smart city" should not only increase access to "smart" devices for all categories of people with different income levels and different age groups, but also to ensure access to training to work with these devices. The basis of the "smart city" is open to all users of a network of "smart" devices, and citizens require or provide services that are of greatest value to them.

One of the first definition of "smart" city gave Boyd Cohen researcher of innovation magazine "Co. Exist." In his opinion, the "smart city" - a city that uses information and communication technologies to become smarter and more efficient use of resources, resulting in cost savings and energy to improve the quality of service and the quality of life, less impact on the environment, supporting innovation and environmentally-friendly economy.

Not long ago, he published a list of the most "intelligent" cities in the world. In his study, he broke the city into three groups - the pioneers, developing and catching up. He took away their 62 different criteria (Yarosh, 2014; Baran et al., 2016). Among them, for example, the reasonableness of the development of cities and construction of individual buildings, the number of bicycles, open government, citizen activity, the availability of broadband Internet, the availability of specific applications to interact inhabitants and the administration, the presence of the city's online services, etc.

Great potential of intelligent systems, which are used in Barcelona, was also supported by the strong position of the city on environmental indicators. Last year in Barcelona program "intelligent city" was developed, which in the next 10 years will not only significantly improve the living conditions of people, but also to bring into the treasury an additional $ 3.6 billion. Also, Barcelona is now tested a pilot project to equip the city and garbage bins tanks, sensors, tracking the level of waste. With this information, garbage trucks in real time to optimize their routes, visiting only those areas in which there is full of boxes. In Barcelona there are not only nearly ubiquitous connectivity to the wireless internet, but also a special program to improve the care of the aging population of the city. In addition, in the city there is a crowdsourcing platform that enables residents to vote for the innovations in the city they would like to see.

Last year, the Copenhagen authorities have launched a large-scale project, which will transform the city into a single "smart" system. It will save energy, make streets safer and reduce air pollution. Also, the city's population is ahead of other capital in the number of smartphones per person and is actively involved in city life, including up to 1,000 events, actions and initiatives in the year. Copenhagen plans to drastically reduce carbon dioxide emissions by 2025.

In Helsinki, the city successfully applied development program Helsinki Smart City, which is noted as an effective and ready for use in many European cities. The purpose of the program - increased availability of information resources and to attract residents to their use. In the city, almost all buildings are equipped with "smart" counters.

Vancouver, Canada. Vancouver is the center of industry innovation of clean technologies, boasts a low-carbon, and an impressive 90% of its energy from renewable sources takes (mainly due to hydroelectric power stations).

Vienna, Austria. Vienna - the most comfortable city to live in, one of the safest in the world and with excellent transport links. Urban planning Vienna is recognized as an outstanding internationally. In 2010, the capital received a prestigious UN award for reducing the number of housing below quality standards. The amount of such housing is now <9% of the total. Company TINA Vienna is developing "smart" solutions for the capital, equally covering areas of life, work and leisure and include all aspects of urban development, from infrastructure to energy and mobility.

The original method of dealing with traffic congestion in Singapore is based on the use of "smart road system" EPR. Each car in Singapore is equipped with a special device, which is inserted in the cache card - "In-vehicle unit" when driving through the gates of EPR with the card automatically deducts smiling a fixed rate amount (with no other taxes on car owners are not charged). This system is possible to achieve reduction of traffic during peak hours by 15% and increase the average speed by 20%.

Bogota, Colombia. In recent years, the capital of Colombia, has significantly improved its reputation, becoming the abode of organized crime and poverty in one of the budding "green" city. Today it is one of the most environmentally friendly settlements in Latin America. Bogota has an efficient public transport system, hundreds of kilometers of bike trails and over 1200 urban green spaces. City dramatically improved air and water quality, and for 4 years (2008-2011). Put an end to trade in their wild nature.

Another example of energy efficiency is a pilot project in Glasgow, where street lights are fitted with sensors that respond to movement, so that lights light up only when there are people in the street. In London, we reflect on more large-scale projects to conserve power - accelerator cognicity challenge, specializing in for the "smart cities" technologies, testing the project Demand Logic, which aims to help companies to reduce the cost of electricity due to comprehensive monitoring of energy consumption (Romanova, 2015).

However, the known and several unsuccessful attempts to create a real "smart city." For example, the eco-city of Masdar in Abu Dhabi thanks to the advanced technology needed to minimize emissions of carbon dioxide into the atmosphere. There is still a city of Songdo (South Korea) with a huge number of sensors designed to simplify infrastructure management, and the valley of "plan IT" in Portugal, which has its own urban operating system. In the course of these projects, planned to build a new city from scratch, but none of them did not go according to plan, but as they say, learn from mistakes and failures in the future, these will be taken into account.

In the "smart cities" will not be unemployment. Sociologists and economists predict that due to the automation of job cuts will occur, but at the same time increase the demand for professionals in the "hi-tech" sector. In addition, there will always be demand for social workers, health care, education and service. Requirements for professional skills will increase significantly, which will result in improvement in the educational system.

"The smart city" are necessary and intelligent citizens. Conscious, responsible citizens, actively involved in city life. Smart city - an open system in which everyone can realize its initiative to improve the quality of life at the highest state level.

3. RESULTS

Today, the term "smart city" is used throughout the world with a variety of contexts and has all sorts of practical aspects, often "smart city" referred to the use of information technologies in the urban environment and the life of citizens. But in addition to this "smart city" it is - the result of the change of technological structure in the transition from the post-industrial society to a knowledge society.

The city is the economic and social laboratory in which at each stage of its historical development, created the image of the city of man. Creates the appearance of the very urban environment, in which a person is born, lives and develops. The man - the creator of the city, a man - the creator of the city and the urban environment. That is why a man must create for themselves a comfortable urban environment.

Approaches to the development of "smart cities" in European and Asian countries are different - in Asian countries they have a technological focus, and in European countries increasingly have a social dimension. For example, the city of Vienna strategy (Austria), focuses on the care of diverse populations and balance of public interest. Vienna sustainable development means ensuring the reliability, flexibility, adaptability of urban systems and their ability to respond quickly to internal and external influences. Stability depends on the possibilities of self-organization, or changes in economic and social systems, social cohesion, citizens' competences. Vienna's strategy is based on an integrated approach, which involves the use of new policy and management coordination mechanisms. A special place in the strategy deals with issues of administration of innovation in all spheres of life of the city to improve the efficiency of their operation, as well as the production of public goods. The strategy put to the task of conservation of natural resources, development and use of innovations, ensuring a high quality of life and socially balanced society. The document itself is a framework and set the direction for the development of the respective spheres of city life in the "smart city" concept: Establishes requirements for the development of sectoral plans, strategies, projects and work plans. So municipal development documents must comply with the following areas of the strategic framework: Climate protection, resource and energy saving, innovative development, new research and development aimed at improving the quality of urban environment, sustainable urban planning, sustainable urban development. The strategy itself is linked to the existing European strategies and instruments (Ribina, 2015).

For comparison, we give an example of a technologically-oriented Asian strategy of the city - Singapore. In Singapore, the project method is used: Implemented a number of large-scale infrastructure projects with the use of innovative information and communication technology designed for businesses and citizens, which are positioned under the brand of "intelligent island." In its strategy for Singapore presented only targets of "smart cities," to be achieved by 2030:

1. "Intelligent energy" - 90-95% of the electricity must be carried out with the use of natural gas; "smart" power system must be installed in 30% of households.
2. "Smart Technology" - 100% the spread of broadband Internet and the introduction of 4G LTE; at least 50% of homes must be equipped with the technology of "smart home."
3. "Intelligent Building" - in 2030 about 80% of all buildings must comply with energy efficiency standards "Green Mark Certified."
4. "Smart Health" - is to provide integrated information systems throughout Singapore, as well as the use of cloud storage technology.
5. Public transport system - every other citizen has to use public transport.
6. "Smart Power" - should be established a committee on the green development of Singapore, to develop appropriate strategies.
7. "Intelligent mobility" - urban transport by 2020 should reach 70% of the traffic; ensure the availability of real-time via the internet or mobile phones.

As seen from the examples of Vienna and Singapore have very different strategies - different vision, technological component, organizational and economic methods for the implementation of reforms. In practice, local authorities, business people and take an active part in the transformation of the city into the "smart." An important role in providing innovative management in the cities played the citizens and their human capital spent in the US studies show that the growth of "smart cities" promotes the influx of young people in the city with a higher education (Glaser, 2013; New Day, 2015).

Practice shows that significant investments that have been spent on "smart" technology in cities, pay off either in operation or business, or by high social effects, synergies in the development of other spheres of life of the city, such as the emergence of new types of services, businesses and others. The concept of "smart city" expands the boundaries of communications in the urban community.

4. CONCLUSIONS

In conclusion we can highlight the disadvantages of the "smart city" example is the city of Songdo in South Korea. Its construction is not finished yet, but the city already partially inhabited and operational. The design of the city played a major role the company

Cisco, thanks to the development of which the city and become "smart." The entire city is connected to a single network and controlled via satellite and the Internet. For example, the power supply system is designed in such a way that if the evening in an office block have all gone home, the load is redistributed to the residential areas. Himself a resident is also connected to the network, it is connected with all city services and his own house, giving orders from anywhere in the microwave and heating system (Nikolaev, 2015; Glaser, 2013).

Another problem may be the output of the software system. How to live such a city, if you suddenly lost the Internet, if not power failure? However, supporters of "smart cities" concept assure that all possible abnormal situations can be envisaged and to develop action plans for them.

I would like to highlight another problem, c which we may face in the future - it's disease and obesity. Thanks to new technologies, the person starts to move less, so it has a longer disease appears. We no longer have to go out to buy food, or pay the bills, all this will do for us computers. In the end, thanks to all inventions that were supposed to make our lives easier, we risk getting sick and lazy future generations.

In this work it was studied the "smart city" and its socio-cultural aspects were also considered under construction and existing "smart city" in Russia and abroad. There were also identified the main components of "smart city:"

1. Energy: Automated intelligent grid and flexible distribution system; smart metering and demand management system; integration of renewable energies; hardware-software complex smart grid management, energy-efficient buildings.
2. Water: Automated withdrawals, water distribution, sewerage and leak detection; regulation of rainwater and floodwater in the city; smart metering and demand management system; software and hardware management of water supply, its purification and control of water quality.
3. Transport: The control of traffic flows and the quality of the road surface; collection of tolls; infrastructure of charging stations for electric vehicles; software and hardware traffic and public transport management.
4. Security: Video surveillance, video fixation and physical security infrastructure; providing call emergency services system; warning systems; hardware and software system security management systems.
5. Services: Fully automated public services, banks, information, education, health and tourism. Fun and safety.
6. Integration: A common information space smart city, aggregating information from the city's infrastructure, management systems and people.
7. Government: Support system and decision-making, analysis and forecasting, incident management, the provision of public and municipal services in electronic form, publishing open data.
8. Residents: Users of infrastructure and information services; distributors of information in a "feedback" mode.
9. Eco-system.

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