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# THE DEVELOPMENT OF SMART CITY CONCEPT IN ROMANIA

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## Abstract
The humanity has developed over time, mainly in urban environments and around. As with the development of large towns, cities, this has led to increased consumption, increase the amount of waste and hence the pollution of the environment.

In the present paper I analyzed the concept of smart city and its applying in Romania cities

## Introduction
A number of critical issues for the further development of the communities had settled between them are: safety of the inhabitants, public health, public lighting, transport of goods and persons, waste disposal etc. These are important issues for towns and communities and modern all sizes. Moreover, technology is often a critical factor which depends the success of basic activities of modern society, such as the production of food, water, electricity supply and gas lighting, individual or public safety, health, transport of persons or goods, processing of ores and raw materials to produce our products, waste collection and processing, remote communications, or operation of a modern public administration.

Basically, there is no activity conducted in modern society and the modern technology might not be a key factor, or at least an element of success. As such, the challenges which have to be part of modern public administrations and mayors is significantly larger and more complex, a community or village became practically a large open system in constant change.

From this perspective, the European Commission - Digital Single Market is the "smart city" as a community where traditional networks and services become more efficient through the use of digital technologies and telecommunications, citizens and businesses.

Another common definition says that "a smart city is one that integrates information and communication technologies for the efficient use of resources and infrastructure to ensure needs. It is appropriate to involve multidisciplinary operational team and implementing technical solutions, based on a strategy initiated and validated by town planners that can yield results in the medium and long term, the necessary initiatives to implement the concept of smart city / community they are designed and launched by those who best understand the "metabolism of a city" and urbanism and urban planning specialists, specialists in electronic communications, energy, environment, etc., and apply them sequentially (prioritized).

Therefore, effective solutions taken from previous experiences of good practice were found to be the result of a multidisciplinary approach and close cooperation between specialists from different fields, such as planners, architects, builders, engineers, service providers, responsible for developing public policies, businessmen and entrepreneurs, civil society, academia and, not least, citizens.

In the towns there are a number of sectors, areas that cannot become "smart" without a corresponding development of electronic communications infrastructure to monitor and manage these areas.

# INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

Among the most important of these areas or sectors are:
- Telecommunications (the main component in the smart city concept);
- Energy infrastructure (smart grid);
- Transport infrastructure (mobility);
- Potable water and sewage infrastructure.

Telecommunications or electronic communications made through the physical environment (eg conductor cable, fiber) helps interfacing all equipment and applications that are monitored and managed all other smart infrastructure.

The similar radio or wireless electronic communications, have contributed significantly to interconnection of networks and infrastructure services in geographical areas with lower coverage of telecommunication networks. In the communities, electronic communications networks must be developed so as to enable a coating with a granularity as high as better penetration to the appropriate services and to be protected / secure physical (underground ducts, distributed antenna networks, etc.).

It should be emphasized that implementation of the concept of village / community "smart" bring immediate benefits, with significant impact on quality of life and the environment, these two elements represent, in fact, leading indicators worldwide, which should monitor them, to improve them. Only then can we help to ensure a long-term balanced environment, enabling sustainable development of communities and continuity of human society itself.

Absolutely all the other elements of the social and economic are subsequent primordial these two indicators: quality of life and environmental quality.

Although these things are publicized worldwide, following a brief analysis, one of the major problems identified in Romania, is the involvement still low from local governments, those which coordinates urban communities to implement intelligent solutions in infrastructure , energy, communications, transport, health, the environment and many other areas of interest, here reminding only the most commonly addressed.

Public administration, together with members of the community should focus on identifying ways to implement those solutions for energy efficiency at the consumer level but also in the production area, in particular through the use of green energy, renewable (solar, wind and geothermal).

Promoting projects aimed at use in each building (building) solar panels to produce hot water and photovoltaic panels to produce electricity is one of the methods more accessible to the gradual increase in the use of technologies to produce green energy. If this approach is supported by the State, by financing projects from national, EU or other funds available, the circumstances for lowering the cost of green energy and increasing the momentum needed to implement and use on a global scale so green energy and technologies "smart" complementary, as well as the controls for the lighting of the inside and outside control of environmental parameters (temperature, humidity, etc.), increasing the quality of the air in the premises, control of electric energy consumption, etc., carried out locally by remotely via the Internet.

The modern technological development brings with it some risks, and benefits increase safety and public security. The technology "smart" with mobile technologies allow at present a wide range of services for citizens.

In this sense, the following services "smart" (using technology "smart") are considered important to the community:  measures on safety and security of children and youth in and around schools, playgrounds and other areas in usually frequented by children and young people;  security measures elders in public and in private, especially in difficult weather conditions thereof; measures on early detection of violent situations, potentially conflicting, or generating incidents, congestion, agglomerations unauthorized motorized traffic problems etc. and notification to citizens to legal resolution; measures to facilitate emergency calling service in crisis or emergency situations occurring in the private or the public; early detection measures, where possible,

# INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

information and early warning citizens about the weather or environmental conditions special emergencies or other events potentially harmful emphasized; measures redirect traffic control self-optimizing movement of vehicles and persons.

The continuous acceleration in knowledge, innovation and technological development marked influence all areas of human existence and performance.

The globalization, population growth and mobility create new relationships and social needs, biological, economic and cultural. The peculiarities of spatial development planning in terms of urban concentration of population attracted by the economic strength of new technologies creates prerequisites giant structures - mega cities which must meet the new functions of correlation and interdependence multi sectorial.

The continuous migration village - city increases the pressure on urban agglomerations have to face major challenges, particularly in the services and ensuring quality of life. In Romania until 2050 after UN forecasts will still have about 38% of the rural population.

In the current demographic and economic context of Romania, decreased ability to cover the cost of living has direct consequences on health and healthy life. Optimizing use of available resources to ensure a sustainable future development condition is wise to challenge all communities will know and can adapt to the new challenges ahead.

The familiarity with some approaches and Romanian international practice and help identify specific communities new perspectives open to the future. The creativity and community mobilization will be instruments to achieve sustainable development performance with meaning and direction chosen by the community itself.

The most models and programs mentioned current smart cities and propose projects to improve the performance of the health system and quality of life.

New trends in the field must take account of that patient, more informed, will enable a beneficial relations of partnership with healthcare providers. Romania in the context of alternative care pathways, new safety standards and quality of service require a new approach to integrated use areas of performance and advanced skills.

The computerization of medical development in successive stages enables integration into a coherent system of electronic patient record, health care, electronic prescription system decision support, communication doctor - patient remote monitoring, support services to patients for decisions, telemedicine, patient flow optimization and cost control and quality of service.

The developing technological infrastructure support for health services allows reducing service costs, integration of patient data into a single system, according to international standards for diagnosis, treatment, monitoring and continuous care, wherever they are patient, safe use of patient data .

The solutions must meet the objectives of health system reform: improving the health of the population, improve service quality and medical practice, improving flows within and among health institutions, control and reduce costs, compliance regulations.

Instead of conclusions, we can say that medical services industry is facing major challenges and the technology has and will have an important role to play. Developing integrated care enables continuous supply for the entire population, high quality services by optimizing use of available resources.

For the future, e-health is a major challenge for citizens requiring cooperation and coordination at all levels possible in order to share ideas, expertise and procedures. We can also say that involves people and professionals worldwide (national and international community).

# INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

The education is the cornerstone that underpins a developed society. SMART education does not define the concept of a smart device, but rather a change in the education system in an efficient and quality.
The essence of education is to create smart environments for proven technologies so that teaching methods conducive to enhancing understanding of pupils and effective results. This framework defines three key elements in the education of intelligence, namely smart media, pedagogy smart, intelligent student.

Developing the concept of intelligent education has a fundamental right idea digitization. One of the components of digital citizenship is the digital literacy. This involves critical and confidently navigating, evaluating and setting information using the widest possible range of digital tools. The students must be aware of the rights they have online and that go hand-in-hand with responsibilities.

In Romanian society there is a widespread recognition that education represents the strategic further development of the country by contributing to multidimensional modeling and predictive essential to human capital. The education should be seen as a path to sustainable development; in fact, it is a learning process in the search for innovative solutions.

An example of service "smart" is tele presence. Implementation of digital solutions to interconnect schools or colleges tele presence and interactive whiteboard so that students from different institutions can participate simultaneously in the same lesson represents a new model of educational services that assimilate new IT & C technologies. Tele presence provides access to students in remote areas or with physical disabilities to quality content and facilitates their contact with teachers from other cities.

Thus, students in different cities and institutions, or students with physical disabilities can simultaneously view and participate in a lesson down in one of the schools. They may also interact using digital whiteboard, viewing and changing, real-time content. It is recorded and uploaded to a dedicated online platform for later access by students. Also, teachers in different cities have the opportunity to interact in real time to the benefit of students.
Smart tourism is also a natural progression of classic tourism services. The widespread use of IT & C generated many opportunities for the development of tourism services via the Internet, the benefit of both companies (access to customer service diversification, means of interaction etc.) and customers (ways alternative information service access, more choice, control and remote payment, etc.).

The widespread use of social media networks and the continued growth of the use of mobile technologies have led to an accelerated dynamics characterized by increases in the quantity and quality of information available with direct impact on the consumption of smart travel.

We live in a world where the citizen is becoming increasingly aware of their rights, in addition to state obligations and expect it to perform. This situation is naturally generated by changes of government through which all Member States, including Romania.

Implementation and increased use increasingly broader eGovernment services to citizens and businesses, complete mobility provided by modern equipment electronic communication leads using Internet technologies to a new level in communities in Romania and throughout the Union EU.

Accessing the Internet information about public institutions, fill out forms online, e-commerce, online payment of taxes, filing through Internet statements to ANAF, use e-mail or documents signed electronically in relation to public institutions are in becoming more normal ways of interacting with government.

The benefits of using public services online are huge both at government level and, especially, the citizens and businesses. During recovered from queues at counters or in traffic, reducing waiting time standing in heat or cold, reducing resolution times, reduce dependence on working hours counter, diversification of media and interaction are obvious benefits to people who must interact with government. It should be emphasized that this change started within government and led gradually to the continuous education of citizens and the steady increase in the use of online public services. Complemented by reducing bureaucracy, increasing transparency

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and efficiency by using modern technologies and automation of administrative flows, public administration in Romania made important steps towards an administration "smart" flexible, adaptable and effective.
However, to achieve this objective at national level are necessary measures for administrative simplification, of increasing electronic interoperability and organizational or increase the level of cyber security, especially in the introduction of technology "smart" based on technical modern computer and Internet usage.

Decrease the overall consumption of energy and materials through the use of technology "smart" and data collected by the equipment used in providing services "smart" design intelligent development localities are ways in which human communities under the direction of administration "smart" can achieve synergy necessary for sustainable development.

As expected, it is necessary to identify common indicators at national level through comparative measurements, can certify the constant evolution of human communities and hence the government that they run. In addition, because the change has already begun to take place under optimum conditions, it is recommended that public institutions can achieve effective management of change and transition to new levels of efficiency and specialization in the provision of public services to citizens and local businesses.

A business that tends, by its very nature, be "smart". To exist, a business must create sufficient added value payment of all debts to employees, partners, borrowers and the state, and in order to provide the necessary resources for future developments and adapt to new market conditions. Although they are generally an advantage, in particular situations can generate a greater effort to identify and address opportunities to maintain high profitability compared to other players in the market. Unlike public administration enjoys a higher latency in identifying development opportunities.

Although technology "smart" captured quite recently government interest in the European Union, the business has implemented much and use them successfully is itself an example of the benefits generated. Thus, use of the Internet for presentation, electronic exchange of messages, simplify operational flows, optimizing communication and electronic commerce are examples of successfully applied for many years in business. Similarly, use of modern technology "smart", resulting in optimization of material costs and material, energy consumption and water was applied by companies long before the government.

The staff productivity increased also significantly with the introduction of large-scale private sector computing equipment and specialized computer applications and performance. In modern human society basically survival of a company may come to depend on its ability to adapt to new technologies and new challenges, the ability to find the right answer conducive to development. From this perspective, the above-mentioned principles can become temporary barriers for some components of the business environment, in which intervention is required specialized organs of the State to comply with generally accepted rules and promoted through the regulatory framework.

Using new technologies and community membership "smart" allows companies to identify new business niches and cost optimization, especially in support of local business development by facilitating access to financing from national or structural funds.

This creates with support from the State, conditions intelligent development companies, as part of the community "smart" to achieve the same goal of sustainable development of these communities and their members.

Equipment interconnection and data exchange with the environment, other equipment and human users is one of the foundations of technology "smart". Of these, electronic interoperability treated in the context of this guide, the exchange of data between equipment for "smart" and / or complex systems. The electronic interoperability is thus a basic requirement for a service "smart" to exist and function. Without interoperability of services cannot discuss "smart" cannot discuss complex systems and electronic data exchange. From this perspective, public authorities which implements the "smart" must take into account the need for computer systems and electronic

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

equipment serving services implemented to be able to exchange data with each other, the environment or human users in formats comprehensible each of these actors.

This requires public authorities to cover at least aspects of syntactic interoperability for the exchange of data. Given that semantic aspects are important in implementing services "smart" to citizens or business, they must also be treated.

The cyber security is a goal of the utmost importance with regard to any computer system. When analyzed services "smart" belonging to public authorities, dealing with data infrastructure or basic services to human communities is necessary to provide an additional level of cyber security.

Similarly, if data collected concerning personal information, such as medical information or educational data, a higher level of cyber security is needed. Furthermore, the exchange of data between systems, even of the same public authority, not to speak of systems belonging to different institutions, based on the use of common standards, including with regard to cyber security.

## Conclusion

The smart development is no longer just one option among many, is a manifestation of social responsibility. Notwithstanding the motives and nature of the involvement, their position and duration of the mission, mandate contract, opinion leaders, elected officials, decision makers must be aware of any community, here and now, that we owe to future generations as much as one to which we belong.

Treating superficial way we harness (each community) resources (including human) and we process waste (residues) and ignoring the effects of these interventions on the natural and social environment (both in terms of the daily lives of community members and the sustainable development opportunities in the future) simply no longer acceptable.

On the other hand, the non-inclusion of digital technologies in every aspect of urban life will be shortly, disability (i.e. more than missing one or opportunities). Modern public services are already unthinkable without digital components, intelligent. It is said the argument that not all areas are consuming money, on the contrary, once started, the process will benefit from the creative resources (local and global), will synchronize efforts and maximize results, having even potential fundraising (and other resources).

A lesson (which, unfortunately, Romania has not learned it yet) is that to boost "intelligence" local MONEY ALLOCATED TO AND FROM CENTER (big letters I can see someone). China, for example, will invest $ 8 billion just in technologies for smart cities.

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