VIII INTERNATIONAL CONFERENCE

QUALITY SYSTEM CONDITION FOR SUCCESSFUL BUSINESS AND COMPETITIVENESS

PROCEEDINGS

ASSOCIATION FOR QUALITY AND STANDARDIZATION OF SERBIA

25.11.-27.11.2020

ASSOCIATION FOR QUALITY AND STANDARDIZATION OF SERBIA

VIII INTERNATIONAL SCIENTIFIC CONFERENCE

QUALITY SYSTEM CONDITION FOR SUCCESSFUL BUSINESS AND COMPETITIVENESS

PROCEEDINGS

25/11 – 27/11/2020

Organizer

ASSOCIATION FOR QUALITY AND STANDARDIZATION OF SERBIA
e-mail: office@aqss.rs
web: www.aqss.rs

CO-ORGANIZER

FACULTY OF VETERINARY MEDICINE UNIVERSITY OF BELGRADE
web: www.vet.bg.ac.rs

IN COOPERATION WITH

CENTER FOR QUALITY FACULTY OF MECHANICAL ENGINEERING IN KRAGUJEVAC
web: www.cqm.rs
e-mail: cqm@kg.ac.rs

CENTER FOR QUALITY OF FACULTY OF MECHANICAL ENGINEERING PODGORICA
web: www.cq.ac.me
e-mail: centerforquality@ac.me

SHUMADIA ACADEMY OF PROFESSIONAL STUDIES

Web: www.asss.edu.rs
e-mail: office@asss.edu.rs

MIDDLE AND SOUTHEASTERN EUROPE QUALITY INITIATIVE
e-mail: miroslav.drljaca1@zg.t-com.hr
web: www.hdmk.hr

with support

Republic of Serbia
Ministry of Economy
www.privreda.gov.rs

Accreditation body of Serbia
www.ats.rs

Serbian Association of Employers
www.poslodavci.rs

Institute for standardization of Serbia
www.iss.rs

PROCEEDINGS

Publisher:

Association for quality and standardization of Serbia

For publisher :

Professor Zoran Punoševac PhD

Editorial board:

Professor Zoran Punoševac PhD

MSc. Ana Jelenković

Ivan Vesić

Print:

SaTCIP d.o.o ,Vrnjačka Banja

No. of copies :

50

ISBN 978-86-80164-15-1

SCIENTIFIC COMMITTEE

ORGANIZING COMMITTEE

PREFACE

Dear Colleagues, Ladies and Gentlemen,

I take great pleasure in welcoming you to the 22nd National and 8th International Scientific Conference on QUALITY SYSTEM CONDITION FOR SUCCESSFUL BUSINESS AND COMPETITIVENESS, organized by the Association for Quality and Standardization of Serbia.

In the past period, we have successfully organized 21 national and 7 international quality conferences where a large number of papers were published, with a large number of authors and co-authors and most importantly, with a large number of participants

This year, the organization of the conference got a completely different character due to the COVID-19 pandemic, so we organized the On line conference. The decision on the manner in which the conference will be organized was made only 15 days before the event, bearing in mind that at that time Government made a regulation to ban gatherings of more than 5 people indoors (in this case in the conference hall).

This year we are organizing the 22nd National and 8th International Scientific Conference in cooperation with:

- *Faculty of Veterinary Medicine, Belgrade University – co-organizer*
- *Quality Centre, Faculty of Engineering Sciences, Kragujevac University*
- *Quality Centre, Faculty of Mechanical Engineering, University of Montenegro, Podgorica*
- *Middle and South East European Countries Quality Initiative*
- *Shumadia Academy of professional studies,*

with the support of

- *Ministry of Economy of the Republic of Serbia*
- *Accreditation Body of Serbia*
- *Serbian Association of Employers*
- *Institute for Standardization of Serbia*

The sponsor of the conference is Trayal Corporation from Kruševac

A number of papers have been submitted for this conference, which have been published in this proceedings, but the emphasis is on round tables, which are expected to be attended by a larger number of participants.

- *THE FUTURE OF REMOTE AUDIT where the current practice and future directions of development of these new audit methods and techniques of verification would be pointed out.*
- *CORONAVIRUS PANDEMIC AND CRISIS MANAGEMENT, with the main goal of understanding the aspects of crisis management in the context of a coronavirus pandemic, as well as the consequences of the pandemic on the economic and financial system*
- *FOOD SUPPLY CHAIN IN THE CONDITIONS OF THE COVID-19 PANDEMIC, which will discuss the global food crisis in the world and its consequences, which were further deepened in 2020 by the SARS-Cov-2 pandemic (Covid-19) and finding possible solutions for the period ahead*
- *FUTURE CONCEPTS OF STANDARDS FOR MANAGEMENT SYSTEMS with the aim of presenting the future concept of development of the ISO 9001 series of standards bearing in mind that the draft future concept of standards for management systems provides framework topics to be addressed in the future by ISO 9000 series standards and organizations applying standards for management systems.*

This year, as well as every subsequent year, we will give recognition to those who have contributed to the success of the conference.

This year, as every next year, we will award prizes to deserving members for their contribution to the work of the Association as well as to the improvement of the quality infrastructure in Serbia

The success of a conference depends on all the participants, therefore, I take the opportunity to thank all the authors and co-authors of the papers, the co-organizer, the general sponsor, other sponsors and donors, media patrons, as well as all the participants from Serbia and abroad.

I would like to wish us successful work and a good time at the largest gathering devoted to quality.

Yours sincerely,

Professor Zoran Punoševac, PhD
Organizing Committee Chairman

ASSOCIATION FOR QUALITY AND STANDARDIZATION OF SERBIA
22nd national and 8th international conference
QUALITY SYSTEM CONDITION FOR SUCCESSFUL BUSINESS AND COMPETITIVENESS

THE ROLE OF NEW TECHNOLOGIES IN SMART CITY MANAGEMENT

Maja Mutavdžija, mag.ing.traff.[1]

prof.dr.sc. Krešimir Buntak[2]

dr.sc. Ivana Martinčević[3]

Abstract: *Smart cities consist of a number of components and technologies, one of which is IoT. However, IoT as such can be contained in other components of the city such as transport, logistics, construction, etc. Many new technologies are present in smart cities and are used to better manage and run the city. In addition to the link between IoT and Smart City, the aim of this paper is to show the connection of a smart city with other technologies, such as big data and blockchain technologies, which are increasingly emphasized in the context of this concept. The existing technology, mentioned through this paper, will find its expanded application and will undoubtedly be further improved with the proposed model. The proposed model supports the use of artificial intelligence, because through the dimension of AI it is possible to collect data obtained from different urban components in one central location and in that way improve smart city management.*

Keywords: *Smart Cities, Smart Management, Internet Of Things, Big Data, Blockchain Technology, Artificial Inteligence*

JEL Klasifikacija*: O18 Urban, Rural, Regional, and Transportation Analysis*

1. INTRODUCTION

The concept of a smart city is a concept of the cities of the future. Just as organizations need to monitor changes in the environment and adapt to new demands, so must urban areas. There are more and more inhabitants in urban areas and new requirements are being placed on the management of urban areas. Smart cities consist of a number of components and technologies, one of which is IoT. However, IoT as such can be contained in other components of the city such as transport, logistics, construction, etc. Many new technologies are present in smart cities and are used to better manage and run the city. In addition to the link between IoT and Smart City, the aim of this paper is to show the connection of a smart city with other technologies, such as big data and blockchain technologies, which are increasingly emphasized in the context of this concept.

[1] Maja Mutavdžija, Sveučilište Sjever, Koprivnica, Republika Hrvatska, mamutavdzija@unin.hr
[2] Krešimir Buntak, Sveučilište Sjever, Koprivnica, Republika Hrvatska, krbuntak@unin.hr
[3] Ivana Martinčević, Sveučilište Sjever, Koprivnica, Republika Hrvatska, ivana.martincevic@unin.hr

The components of a smart city can be divided into; smart healthcare, smart environment, smart energy, smart security, smart management, smart traffic, smart industry, etc. (Gaur et al, 2015). Each of the components of a smart city can be developed on its own, but it can also be developed in parallel with the development of other components. However, different authors list different components of smart cities. In addition to the above, Bosha, Liezel, and Stephen (2017) list three basic components of each smart city; people, technology and institutions. However, they mention the internet of people, internet of things, internet of services and internet of data as the four main components of any smart city (Sadiku et al, 2016).

Regardless of the difference in views on the components of a smart city, one can induce the conclusion that a smart city consists of electronic devices as well as connecting physical infrastructure to a network that allows easier and simpler monitoring or management of processes taking place within the city that has this concept implemented. Technology as such plays a key role in guiding the development of a smart city and helping to manage the city as well as make better, fact-based decisions.

2. SMART CITY - APPROACH TO DEVELOPMENT AND OPPORTUNITIES

The development and emphasis on the development of smart cities begins with the process of urbanization. Urbanization means the process by which traditional settlements are transformed into urban environments under the influence of technological and other achievements. Accordingly, there are challenges related to development and life in a created urban environment. The challenges associated with the development of modern urban environments are the foundation for the development of the smart city concept. Different authors have different views on the aspects and scope of development of such cities, but all aspects are reduced to the development of a smart society, which implies the use of technological advances that allow urban population to interact with implemented infrastructure and superstructure (Repko and DeBroux, 2012). However, with the development of technology and industry, there are challenges related to increased emissions of harmful gases as well as negative impacts on the ecological aspect of the urban environment. Accordingly, states are beginning to develop programs based on which they seek to reduce the negative impact that the growth and development of the urban environment have on the environment. Emphasizing the development of smart cities has resulted in different approaches to the implementation and introduction, ie the transformation of traditional cities into smart cities. Different approaches emphasize different aspects that need to be addressed. The concepts of smart city development can be divided into five basic categories, and they are; experimental mode of development, ubiquity as a mode of development, corporate concept of development, European concept of development and holistic, complete concept of development (Mora and others, 2018).

Each development concept advocates a different way of implementing smart solutions, ie the transformation of traditional cities into smart cities, which depends on the needs that are identified as key. In addition to the mentioned strategies, one can also identify the approach to implementation obtained by conducting research on best practices of implementation and development in the European Union. The approach emphasizes a technologically driven way of development, a top-down approach and a monodimensional approach (Mora and others, 2018). In addition to theoretical approaches and development models, an example of good development practice is the city of Barcelona, which has undergone its transformation into a smart city in four phases; the initial phase in which ideas were collected and the current situation analyzed, the planning phase in which, based on the identified development opportunities, development methods and approaches were planned, the project development phase in which the identified projects were implemented in practice and the last phase, the control phase in to which the implemented solutions were controlled to ensure their sustainability (Bolici and Mora, 2016).

Regardless of which approach and model of implementation, ie smart city development was used, it is necessary to provide three basic components that determine the success of implementation; collective leadership, strategic management and learning organization. Collective leadership is

directed towards collective management, which will enable the implementation of a once defined solution. Strategic management is aimed at defining goals that will enable the sustainability and future development of the smart city. Finally, the learning organization enables collective learning and the improvement of a once-designed solution (Radecki and others, 2017). Residents, ie citizens, have the most important role in the entire process of development, implementation, but also acceptance of a once implemented project. This is particularly evident in creating their influence towards other people to embrace new technologies, such as the example of the acceptance of electric vehicles (Vassileva and others, 2016).

Once adopted and implemented, the smart city project must be managed to ensure its sustainability. Sustainability implies synergy between all components of the sustainability triangle - environmental, social and economic components. Therefore, development must be directed so as to reduce the environmental negative impact, while ensuring sufficient financial resources as well as the involvement of all city residents, ie ensuring population growth, keeping in mind other components of sustainability (Trinidade and others, 2017).

3. SMART CITY AND INTERNET OF THINGS

Growth and development as well as the emergence of the smart city concept can be linked to information and communication technology. As already pointed out at the beginning of this paper, the smart city concept is based on the use of sensors that collect data from a variety of sources. This data is then stored in dedicated databases, ie used for decision making. One of the technologies driven by the development of the Internet that helps manage the smart city concept is IoT which is an acronym for the Internet of Things. Connecting sensors and IoT devices enables real-time monitoring and control of urban processes (Zanella and others, 2014).

The implementation and application of IoT in the smart city concept enables efficient management of complex systems, such as the transport system, ie transport infrastructure for which man becomes less and less competent and capable due to increasing demands and rapid changes in processes taking place within such system. Thus, IoT provides and is the foundation used to transform classical, ie traditional processes that take place in cities into digital, ie smart processes (Mijac and others, 2017). IoT technology in practice is a technology that supports the development and transformation of a traditional city into a smart city. The applicability and possibility of applying such technology is determined by the infrastructure and superstructure that the city has at its disposal. It should be noted that the IoT is only one of the aspects and components of a smart city, but its application and the opportunities it opens up affect the simpler ability to manage a city. The authors Arasteh et al (2016) provide an overview of the actual applicability of IoT technologies in smart cities, which are shown in the following table.

Table 1 The main application of IoT in Smart Cities

Application of IoT	Description
Smart homes	Houses can have sensors that will monitor the situation in the house using the collected data. In this way, pollution and other pre-defined variables can be measured.
Smart parking lots	Smart parking lots should be designed to control the number of cars in each city zone. In areas where a large number of cars move, it is necessary to establish new parking lots. The collected data can be used for the purpose of improving the lives of citizens, but also better accessibility of economic entities.
Weather and water systems	Information such as temperature, rain, wind speed, pressure, etc. is provided, which can contribute to increasing the efficiency of smart cities.

Vehicular traffic	Citizens could use traffic data to determine the time of arrival at the destination. Traffic-related data can be used for different levels of traffic planning in the city.
Environmental pollution	The use of sensors to control air quality is crucial for the quality of life of citizens, especially those who have certain health problems. By monitoring environmental variables, it is possible to alert citizens and provide information on air quality.
Surveillance systems	Security is one of the key components of a smart city. By using technology, it is possible to monitor certain parts of the city and act to increase the safety of residents.

Source: Authors according to Arasteh, H., Hosseinnezhad, V., Loia, V., Tommasetti, A., Troisi, O., Shafie-khah, M., & Siano, P. (2016). Iot-based smart cities: A survey. 2016 IEEE 16th International Conference on Environment and Electrical Engineering (EEEIC).

A key setting for IoT is to use sensors to identify, locate, track, monitor, and control. Sensors are a source of numerous data that can be used to better manage a smart city in order to achieve city sustainability. By using IoT, it is possible to improve the safety, economy and lifestyle of the citizens of an urban area.

4. THE ROLE OF BIG DATA IN SMART CITIES

Big data refers to all data and the integration of all technologies used in the modern world. These may include mobile technology, sensors, social networks and other available technology. As the name suggests, big data refers to the multitude of data that users receive through such technology. Osman (2018) emphasizes that the big day encompasses four elements, or four characteristics:

1. Volume - refers to a large volume of data, which exceeds typical values such as gigabytes or terabytes
2. Velocity - refers to the movement of data. The technology allows us to provide insight into the actual figures related to the data used.
3. Variety - refers to the complexity of the data structure used.
4. Veracity - refers to the credibility of the data.

Big data is used in Smart cities in different areas, which are mostly very similar to the areas of application of IoT or any other technology, and this mainly applies to all areas defined by the concept of smart cities. All smart cities capture a large amount of data, because using sensors collects a large amount of data, but you need to know how to manipulate that data. Authors Doku and Rawat (2019) point out that by creating smart cities, smart devices and applications create huge data, but collecting that huge data can pose security threats that, unattended, can lead to data misuse or cybercrime. The authors recommend that Smart City needs proper testing of data and their validity and in-depth testing of the processes involved in data collection for all applications and their performance.

Authors Hashem et al (2016) best explained the application of Big Data in Smart cities to several examples shown in the following table.

Table 2 The main application of IoT in Smart Cities

Application of Big Data	Description
Smart grid	Using Big Data in the context of a Smart Grid can help make decisions related to the level of electricity supply, which are in line with customer requirements. Also the data can be used to predict the need for power in the future.

Smart healthcare	Using analytical tools, health professionals can analyze patient data, which can then be used by insurance companies or other administrative organizations. Also, using the data collected can help predict epidemics, treat disease, and improve quality of life.
Smart transportation	Through obtaining data from the field of traffic, it is possible to improve traffic systems by minimizing traffic congestion and providing alternative routes. By analyzing the history of accidents, it is also possible to reduce the number of accidents or help optimize movement.
Smart governance	The use of Big Data is crucial for governments in establishing and implementing satisfactory policies. By analyzing such data, it is possible to reduce unemployment and influence other needs that arise among the population.

Source: Authors according to Hashem, I. A. T., Chang, V., Anuar, N. B., Adewole, K., Yaqoob, I., Gani, A., Chiroma, H. (2016). The role of big data in smart city. International Journal of Information Management, 36(5), 748–758.

Big data is a technology compatible with IoT, because IoT is used to collect data that is later widely used in the functioning and management of Smart Cities. The use of this form of technology helps to identify the needs of the population and increase the overall quality of life, as well as to achieve the sustainability of the system.

5. SMART CITIES AND BLOCKCHAIN TECHNOLOGY

Authors Zheg et al (2017) explain Blockchain as a Blockchain public ledger in which all transactions made are stored in a list of blocks. That chain grows as new blocks are continuously added to it. Blockchain technology generally has the key characteristics of decentralization, persistence, anonymity, and audibility. This makes it possible to save a lot of costs and improve efficiency. Furthermore, authors Yli-Huumo et al (2016) explain how Blockchain is a decentralized transaction and data management technology developed first for cryptocurrencies Bitcoin. The authors believe that the reasons for interest in Blockchain are its central attributes that provide security, anonymity, and data integrity without any third party controlling the transactions.

Authors Biswas and Muthukkumarasamy (2016) believe that Blockchain technology can protect smart city data and propose a four-level smart city protection model. On the other hand, the authors Rivera et al (2017) believe that using Blockchain technology, a digital identity of citizens can be established. There are numerous advantages of using this technology in smart cities, and the authors Xie, J., Tang, H., Huang, T., Yu, FR, Xie, R., Liu, J., Liu, Y. (2019) define some key, which are shown in the following table.

Table 3 The main application of Blockchain Technology in Smart Cities

Application of Blockchain Technology	Description
Smart Citizens	Analyzing citizens' personal data has a number of benefits, such as providing personalized services, accelerating innovation and economic growth, predicting future market trends, and optimizing an organization's decision-making process. Blockchain is a technology that allows citizens to collect, store and control access to their personal data.
Smart Healthcare	The use of blockchain in smart healthcare has several advantages. For example, medical data can be stored in a blockchain in a secure, immutable way. Patients can

	control the use of their medical data and flexibly manage access to their data.
Smart Grid	Blockchain technology not only promotes the realization of a reliable and efficient decentralized power grid system, but also increases the stability and data security of smart grid systems.
Smart Transportation	The distributed nature of blockchain technology can improve the robustness of smart transportation and improve in-vehicle communication management and information exchange. With the help of blockchain, a decentralized, reliable and secure smart transport system can be established.
Supply Chain Management	In supply chain management, a blockchain can be used to track detailed product information and prevent counterfeit products from being placed on the market. Furthermore, the blockchain can also be used to exchange business information between entities in supply chains. Based on shared business data, entities can optimize their decision-making process.

Source: Authors according to Xie, J., Tang, H., Huang, T., Yu, F. R., Xie, R., Liu, J., & Liu, Y. (2019). A Survey of Blockchain Technology Applied to Smart Cities: Research Issues and Challenges. IEEE Communications Surveys & Tutorials, 1–1.

Blockchain technology increases the security component in smart cities and finds its application in all parts of the smart city. The greatest emphasis of using this type of technology is the satisfaction and safety of its users. By using blockchain technology, people can protect their data, but also use it when it is needed to make certain decisions.

6. THE NEXT TECHNOLOGICAL PHASE IN SMART CITIES

The modern world is marked by constant change and technology is constantly evolving. The existing technology, mentioned through this paper, will find its expanded application in the coming years and will undoubtedly be further improved. Authors Arasteh et al (2016) predict how collective intelligence will improve decision-making processes and empower citizens. The authors emphasize that the ability to monitor and manage electrical devices can improve the participation of active customers in the operation of a system known as the response to demand. Authors Allam and Dhunny (2019) propose a model for integrating IoT and Big Data, through the use of artificial intelligence.

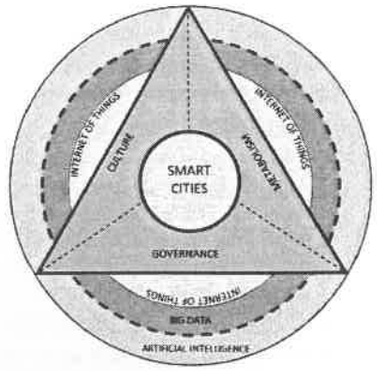

Figure 1. A proposed framework for the integration of AI and big data in smart cities

Source: Allam, Z., & Dhunny, Z. A. (2019). On big data, artificial intelligence and smart cities. Cities, 89, 80–91.

By ensuring a focus on the life dimension through the dimensions of culture, metabolism and governance, the proposed framework provides a focus on smarter and healthier cities from the economic and social levels. Authors Allam and Dhunny (2019) suggest that technology be the core of smart cities where big data can emerge via IoT across different domains, and then artificial intelligence is proposed as a core feature that can process, analyze, and interpret generated data. The proposed model supports the use of artificial intelligence, because through this dimension it is possible to collect data obtained from different urban components in one central location. This is possible due to the interconnection of different services made possible by the availability of a number of smart devices. With this big data, city managers, governments, companies and other stakeholders have the ability to tailor services accordingly.

Although artificial intelligence is a key technology in the next technological phase of smart city management, the proposed model suggests that technology is the core of smart city, which is not the case. Technology should assist in decision making, but management of the smart city has to be the core of every smart city. To measure and compare its progress, each smart city can use ISO 37120. ISO 37120 certificate, or Smart City certificate, helps cities measure progress, with the goal of improving the quality of life in the city. The standards are developed by the leading experts of ISO Technical Committee on Sustainable Development (ISO / TC 286), using the knowledge and experience of 250 cities (Buntak et al, 2019.). ISO 37120 is divided into 17 areas, ie parts of an urban area, which are: economy, education, energy, environment, finance, fire and emergency response, governance, health, shelter, recreation, safety, solid waste, telecommunication and innovation, transportation, urban planning, wastewater and water and sanitation.

In that case, the core of smart cities should be smart management that uses technology for making smarter decisions. New proposed framework can use ISO 37120 for smart city planning and for measuring the improvement, and new technologies, such as IoT, Blockchain, Big Thata and AI, should be used as a support for smart city management.

7. CONCLUSION

In this paper, the emphasis was on three core technologies that are emerging in today's smart cities, and are interconnected. These technologies are IoT, Big Data and Blockchain. Despite the fact that these technologies are different, they have something in common, and that is improving the quality of life and protection of citizens. Each of these technologies, together with its sub-technologies and the components of which they are composed, works towards data collection, data analysis and the use of data to improve the lives of residents and make better decisions. The goal of all technologies in smart cities is to enable the sustainability of the city as a system and the protection of its citizens and all parts of that city.

IoT uses a number of different modern technologies that citizens and government use for easier and simpler management, monitoring and other activities in the city. IoT is closely linked to Big Data, which without IoT and data collection technologies cannot function. Big Data as a cloud of large amounts of data allows the use of this data to improve and enhance the quality of life. Blockchain, as a supporting technology, enables the creation of protection for this data and provides security to all residents of a smart city.

Certainly, in the further development of smart cities, artificial intelligence should be taken into account, which is still in the stage of development, but has enabled great shifts in society. Artificial intelligence is the next technological step towards the development of smart cities. With the help of artificial intelligence it is possible to simulate and choose the best decision based on all available information.

To conclude, smart cities should invest in new technologies in order to gain competitiveness, but new technologies should serve as a support for decision making process and for smart city management. For further research, it is suggested to review all ISO standards that can help in

ACCREDITATION BODY OF SERBIA

The Accreditation Body of Serbia (ATS) as a national accreditation body was founded by the Republic of Serbia and is located in Belgrade.

Pursuant to the Law on Accreditation, ATS has a task to assess the competence of conformity assessment bodies (CABs) to perform testing, calibration, inspection, and certification of products, management systems and persons.

ATS activities are oriented to the upgrade of its system of operation in order to maintain and extend the scope of signed multilateral agreements (MLAs) and the accreditation system that was put in place. This will increase the level of efficiency of accreditation procedures in all fields of conformity assessment and provision of safety of goods and services in our country and abroad.

ATS performs the following activities:

- determine the competence of conformity assessment bodies performing testing, calibration, inspection, certification of products, certification of management systems and certification of persons;
- determine the competence to perform other conformity assessment activities ;
- set forth and publish the Rules of Accreditation that shall be based on the relevant Serbian, international and European standards and documents of the international and European organisations for accreditation;
- keep a public directory of accredited conformity assessment bodies;
- participate in the work of international and European organisations for accreditation;
- organise and deliver accreditation-oriented training to assessors;
- organise seminars and training courses, and promote the importance and role of accreditation;
- preparation and issue of informants, publications and newsletters in the field of accreditation

Contact information
Akreditaciono telo Srbije, Beograd
Vlajkovićeva 3, V floor, 11103 Beograd
E-mail: office@ats.rs
Web: www.ats.rs

CIP - Каталогизација у публикацији
Народна библиотека Србије, Београд

005.6 (082)
005.334 (082)
005 (082)

INTERNATIONAL scientific conference Quality system condition for successful business and competitiveness (8 ; 2020)

Proceedings / VIII International scientific conference Quality system condition for successful business and competitiveness, 25/11 - 27/11/2020 ;

[organizers] Association for quality and standardization of Serbia ... [et al.] ; [editorial board Zoran Punoševac, Ana Jelenković, Ivan Vesić].

- Kruševac : Association for quality and standardization of Serbia, 2021 (Vrnjačka Banja : SaTCIP).

- 62 str. : graf. prikazi, tabele ; 25 cm

"... On line conference..." --> preface. - Tiraž 50. - Str. 6-7: Preface / Zoran Punoševac. - Napomene i bibliografske reference uz tekst. - Bibliografija uz svaki rad..

ISBN 978-86-80164-15-1

1. Punoševac, Zoran, 1956- [уредник] [аутор додатног текста]
а) Управљање квалитетом -- Зборници
б) Менаџмент -- Зборници
в) Управљање ризиком -- Зборници

COBISS.SR-ID 31979785

developing, implementing and improving Smart City concept, and that can be used to propose a new smart city management framework.

LITERATURE:

[1] Allam, Z., & Dhunny, Z. A. (2019). On big data, artificial intelligence and smart cities. *Cities, 89, 80–91.*

[2] Arasteh, H., V. Hosseinnezhad, V. Loia, A. Tommasetti, O. Troisi, M. Shafie-Khah, and P. Siano. (2016) "Iot-based smart cities: a survey." In *Environment and Electrical Engineering (EEEIC), 2016 IEEE 16th International Conference on*, pp. 1-6. IEEE,

[3] Biswas, K., Muthukkumarasamy, V. (2016). Securing Smart Cities Using Blockchain Technology. *2016 IEEE 18th International Conference on High Performance Computing and Communications; IEEE 14th International Conference on Smart City; IEEE 2nd International Conference on Data Science and Systems*

[4] Bolici, R., and Mora, L. (2016) "*The development process of smart city strategies: The case of Barcelona."* 155-181.

[5] Bosha, E., Cilliers, L., Flowerday, S. (2017) "Incentive theory for a participatory crowdsourcing project in a developing country." *South African Journal of Information Management* 19, no. 1, 1-7.

[6] Buntak, K. Mutavdžija, M. Kovačić, M. (2019). A review on measuring the success of smart city initiatives. 46. Nacionalna konferencija o kvalitetu - *Zbornik radova - Festival kvaliteta 2019*; Kragujevac,

[7] Doku, R., & Rawat, D. B. (2019). Big Data in Cybersecurity for Smart City Applications. *Smart Cities Cybersecurity and Privacy, 103–112.*

[8] Gaur, A., Scotney, B., Parr, G., McClean, S. (2015) "Smart city architecture and its applications based on IoT." *Procedia computer science* 52,1089-1094.

[9] Hashem, I. A. T., Chang, V., Anuar, N. B., Adewole, K., Yaqoob, I., Gani, A., … Chiroma, H. (2016). The role of big data in smart city. *International Journal of Information Management,* 36(5), 748–758.

[10] Mijac, M., Androcec, D., Picek, R. (2017) "Smart City Services Driven by Iot: A Systematic Review." *Journal of Economic and Social Development* 4, no. 2, 40-50.

[11] Mora, L., Deakin, M., Reid, A. (2018) "Smart-City Development Paths: Insights from the First Two Decades of Research." In *Smart and Sustainable Planning for Cities and Regions: Results of SSPCR 2017 2*, pp. 403-427. Springer International Publishing.

[12] Mora, L., Deakin, M., Reid, A. (2018)"Strategic principles for smart city development: A multiple case study analysis of European best practices." *Technological Forecasting and Social Change.*

[13] Osman, A. M. S. (2018). A novel big data analytics framework for smart cities. *Future Generation Computer Systems.*

[14] Radecki, Alanus & Tommis, Martine & Bradley, Grainne. (2017). *Organizational Development for Smart Cities.*

[15] Repko, J., DeBroux, S. (2012). Smart Cities Literature Review and Analysis.

[16] Rivera, R., Robledo, J. G., Larios, V. M., & Avalos, J. M. (2017). How digital identity on blockchain can contribute in a smart city environment. *2017 International Smart Cities Conference (ISC2).*

[17] Sadiku, M. NO, E. Shadare, A., Dada, E., M. Musa, S. (2016) "Smart Cities." *International Journal of Scientific Engineering and Applied Science* 2, no. 10, 41-44.

[18] Trindade, E.P., Farias Hinnig, M.P., Moreira da Costa, E., Marques, J., Bastos, R., Yigitcanlar, T. (2017) "Sustainable development of smart cities: A systematic review of the literature." *Journal of Open Innovation: Technology, Market, and Complexity* 3, no. 3, 11.

[19] Vassileva, I., Dahlquist, E., Campillo, J. (2016) "The citizens' role in energy smart city development." *Energy Procedia* 88, 200-204.

[20] Xie, J., Tang, H., Huang, T., Yu, F. R., Xie, R., Liu, J., & Liu, Y. (2019). A Survey of Blockchain Technology Applied to Smart Cities: Research Issues and Challenges. *IEEE Communications Surveys & Tutorials*, 1–1.

[21] Yli-Huumo, J., Ko, D., Choi, S., Park, S., & Smolander, K. (2016). Where Is Current Research on Blockchain Technology?—A Systematic Review. *PLOS ONE*, 11(10), e0163477.

[22] Zanella, A., Bui, N., Castellani, A., Vangelista, L., Zorzi, M. (2014) "Internet of things for smart cities." *IEEE Internet of Things journal* 1, no. 1, 22-32.

[23] Zheng, Z., Xie, S., Dai, H., Chen, X., & Wang, H. (2017). An Overview of Blockchain Technology: Architecture, Consensus, and Future Trends. 2017 IEEE *International Congress on Big Data (BigData Congress).*