

# DEMOCRACY IN THE NETWORK SOCIETY: CITIZENSHIP AND POPULAR PARTICIPATION IN THE SMART CITIES CONTEXT

## DEMOCRACIA NA SOCIEDADE EM REDE: CIDADANIA E PARTICIPAÇÃO POPULAR NO CONTEXTO DAS SMART CITIES

### DEMOCRACIA EN LA SOCIEDAD EN RED: CIUDADANÍA Y PARTICIPACIÓN POPULAR EN EL CONTEXTO DE LAS CIUDADES INTELIGENTES

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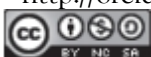
#### ABSTRACT

**Objective:** This research aimed to investigate, in the light of theories of democracy, the new possibilities for exercising citizenship and strengthening democracy in the Network Society, as well as popular participation in political decisions in the context of smart cities.

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**Methodology:** The work adopted the inductive method, based on a literature review and observation of the phenomena.

**Results:** It was possible to conclude that executing smart city projects does not only mean adhering to information and communication technologies, but also facilitating the connection and involvement of government and citizens, with the intention of co-creating and rebuilding urban communities.

**Contributions:** Focusing on citizens and not simply on technologies, it is possible that ICTs and new technologies, including the IoT, improve the exercise of citizenship in current societies and, in particular, in smart cities.

**Keywords:** smart cities; participatory democracy; network society; internet of things.

## RESUMO

**Objetivo:** Esta pesquisa teve como objetivo investigar, à luz das teorias da democracia, as novas possibilidades de exercício da cidadania e fortalecimento da democracia na Sociedade em Rede, bem como a participação popular nas decisões políticas no contexto das cidades inteligentes (*smart cities*).

**Metodologia:** O trabalho adotou o método indutivo, a partir de revisão bibliográfica e da observação dos fenômenos.

**Resultados:** Foi possível concluir que executar projetos de cidades inteligentes não significa somente aderir às tecnologias de informação e comunicação, mas sim, facilitar a conexão e o envolvimento do governo e cidadãos, na intenção de co-criar e reconstruir as comunidades urbanas.

**Contribuições:** Com foco nos cidadãos e não simplesmente nas tecnologias, é possível que as TICs e as novas tecnologias, dentre elas a IoT, aprimorem o exercício da cidadania nas sociedades atuais e, em especial, nas cidades inteligentes.

**Palavras-chave:** cidades inteligentes; democracia participativa; sociedade-rede; internet das coisas.

## RESUMEN

**Objetivo:** Esta investigación tuvo como objetivo indagar, a la luz de las teorías de la democracia, las nuevas posibilidades para el ejercicio de la ciudadanía y el fortalecimiento de la democracia en la Sociedad Red, así como la participación popular en las decisiones políticas en el contexto de las ciudades inteligentes (*smart cities*).

**Metodología:** El trabajo adoptó el método inductivo, a partir de revisión bibliográfica y observación de los fenómenos.

**Resultados:** Se pudo concluir que ejecutar proyectos de ciudad inteligente no solo significa adherirse a las tecnologías de la información y la comunicación, sino también facilitar la conexión e involucramiento de gobierno y ciudadanos, con la intención de co-crear y reconstruir comunidades urbanas.

**Aportaciones:** Centrándonos en los ciudadanos y no simplemente en las tecnologías, es posible que las TIC y las nuevas tecnologías, incluido el IoT, mejoren el ejercicio de la ciudadanía en las sociedades actuales y, en particular, en las ciudades inteligentes.

**Palabras clave:** ciudades inteligentes; democracia participativa; sociedad red; internet de cosas.

## 1 INTRODUCTION

Mobile computing, wireless connection and virtual space were already promoting society to experience a revolutionary process in the field of communication. Now, with the arrival of the new phase of the internet – the Internet of Things (IoT) – the possibility of carrying out machine-to-machine communication and detailed contextual recording (temperature, humidity, faces, plates etc.) was verified. The optimization of tasks and the saving of resources drew attention to the application of these new technologies in managing various aspects of urban life. In this way, Smart Cities became one of the main issues discussed in relation to urban development.

The first discussions about Smart Cities, basically concerned the possibility of intensive use of IoT devices in the infrastructure of cities. Therefore, initially, Smart Cities were characterized using technological solutions (ICT's) to increase efficiency, reduce costs, and improve efficiency in the use of urban resources.

It cannot be forgotten that urban spaces are also political spaces, which reflect part of democracy. There is no Smart City without changes in the way citizens live, without knowledge of the different ways of using public space and interacting with it, as well as other ways of living, working, and moving around the city.

The intention of this investigation regards the new possibilities of exercising citizenship and strengthening democracy in the Network Society, so that, in a scenario of hyper connection, the citizen is no longer restricted to the role of mere user of public and private services in the urban environment.

Do information and communication technologies (ICTs) new communication technologies allow better exercise of citizenship in today's societies? Is IoT capable of enabling greater democratic participation in contemporary cities? How to use technology to interconnect the infrastructure of cities, boost human capacity, and improve the quality of life for all?

That said, this work aims to promote reflection on the implications of the sophistication of environments in the urban context and indicate points of attention for the development of participatory democracy in the context of Smart Cities. It

enters the fields of cyber democracy in search of the “missing links” between citizens and their representatives.

For this, the inductive method will be used, whose reasoning purpose is to reach conclusions broader than the content established by the premises on which it is based. The research will be developed at an exploratory level, seeking to gather information, and detailing the object of study in the specialized literature, making use of bibliographic and documentary research techniques.

The research will be organised as follows: in the first section the subject of the concept of Internet of Things to Smart Cities will be developed; in the sequence, it will seek to demonstrate how the Network Society is bringing new contours to democracy in the digital sphere; and, finally, the exercise of citizenship in the context of Smart Cities will be discussed.

## **2 SMART MODE ACTIVATION: INTERNET OF THINGS (IoT) AND THE CREATION OF SMART CITIES**

According to Lemos (2013, p. 46), the term “digital cities” was debated in the 1990s – based on the integration of Information and Communication Technologies (ICT’s) and urban space – with the intention of stimulating innovative processes in government structures, businesses, and commerce to expand community ties and political participation.

There is no doubt that these goals remain, however, the scenario is not the same as it was almost three decades ago. The expansion of the Internet and the popularization of mobile electronic devices (smartphones, tablets, etc.) promoted substantial changes in the initiatives and projects of computerization of society.

At all stages of the evolution of the internet<sup>1</sup> the universal idea has remained the same: information sharing. What differs in each of them is the public that used it. While in the first two there are intellectuals, scientists, and the vanguard of society, in the last fase – and current – stage there is the popularization of use, that is, with the massification, not only intellectuals have had access to the Web, but it has remained open to all layers of society, including the most popular and less cultured (SCHERKERKEWITZ, 2014, p. 15-16).

Due to the properties of the virtual environment, the internet can be considered as an ideal and democratic platform, considering that it constitutes a space without geographic limits, with freedom of entry and circulation, with users all over the world who can readily establish communication. What is being lived is a

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<sup>1</sup>The Grasshopper Team has made available on its website an infographic that reproduces and summarizes the evolution and diffusion of the internet well (GRASSHOPPER, 2011).

technological age linked not only to machines, but also especially to the information that is generated and conducted by them.

Currently, technological development in the field of communication is not restricted to connecting people, so that interaction with everyday objects is no longer limited to physical and geographical aspects. The internet is launching a new phase based on communication between people and objects and objects with each other, only possible with the development of the Internet of Things.

The Internet of Things (IoT) can be understood as an environment of physical objects interconnected with the internet through small, embedded sensors, creating a ubiquitous computing ecosystem focused on the easement of people's daily lives, introducing functional solutions in everyday processes (MAGRANI, 2018, p. 20).

As Gamba (2020, p. 107) explains, there is the "transformation of common physical objects into objects connected to the internet, functioning as species of computers connected to the network and, therefore, intelligent. With the growing number of smart sensors available at affordable prices, in the not-too-distant future, every tangible object could be connected to a ubiquitous communication network.

In this way, all things will be smart and will be connected to the internet, allowing for greater communication and new data-oriented services based on the increased capabilities of analysing this data (SCHWAB, 2016, p. 126). For example, imagine that before you even arrive at your house, you can send a message so that the devices themselves perform actions to open the doors, turn off alarms, prepare a hot bath, put on lounge music, and adjust the temperature of the house (MAGRANI, 2018, p. 24).

We are facing a new industrial revolution characterized as the second machine age, in which industrial production will be organized based on digital technologies and will be fully automated (BARBOSA; COSTA; PONTES, 2020, p. 14). A scenario in which the speed of information flow dictates the pace of the 4<sup>th</sup> Industrial Revolution is contemplated – a number that alludes to the historical changes previously driven by steam engines (1<sup>st</sup> Industrial Revolution), electricity (2<sup>nd</sup> Industrial Revolution) and automation (3<sup>rd</sup> Industrial Revolution) (PASQUALOTTO; BUBLITZ, 2017, p. 65).

More specifically, the 4<sup>th</sup> Industrial Revolution is characterized by the increased use of so-called disruptive technologies, such as robotics, artificial intelligence (AI), nanotechnology, 3D printing, machine learning, Internet of Things (IoT) and Big Data technology (large volume of structured or unstructured data) (GAMBA, 2020, p. 76).

Furthermore, industrial revolutions have always marked the urban development of large cities. Barbosa, Costa, and Pontes (2020, p. 16) explain that in the first two revolutions, the socio-spatial organization of cities sought to adapt to the

demands of industrialization, forming industrial cities. However, after the 1970 crisis, faced with the drain of income from industries and workers' income, the so-called post-industrial cities adopted a new urban development strategy: becoming hubs of creative industries and, in this way, attracting innovative and high-paying jobs.

Old industrial areas have become targets of large urban projects, especially in the large cities of developed countries, as the focus of intervention strategies in environments that were degraded and underutilized. Urban voids have become arenas for the implementation of these projects, which are combined with the emergence of urban deregulation policies and public-private partnerships. They are called creative urban clusters (LEITE; AWAD, 2012, p. 9-10).

In this context, Smart Cities emerge as a territory for innovation – through ICTs – and the use of the full potential of digital media at the service of the city and the population.

Returning to the notion of the Internet of Things, this “corresponds to the current phase of the internet in which objects are related to human and animal objects, which become objects that carry computational devices capable of connection and communication” (SANTAELLA *et al.*, 2013, p. 28). In this way, with a commitment to instituting a widely connected world, the IoT represents an intelligent infrastructure revolution connecting everything, businesses, vehicles, houses, and the government to the internet, thus enabling the formation of Smart Cities.

Furthermore, if the term “digital” was understood as access to computers and the implementation of the Internet in urban spaces, Lemos (2013, p. 48) confirms that:

[...] intelligent refers to context-sensitive computerized processes, dealing with a huge volume of data (Big Data), cloud networks and autonomous communication between various objects (Internet of Things). Smart here is the synonym of a city in which everything is sensitive to the environment and produces, consumes, and distributes a large amount of information in real time.

In this way, Smart Cities continue expanding their technological sensor network and working on their data platforms, which will be the connection centre for different technological projects and the addition of future services, based on the science of data analysis and predictive modelling (SCHWAB, 2016, p. 131).

According to Morozov and Bria (2019, p. 6), the “smart” of “Smart Cities” represents any advanced use of technology in cities with the objective of optimizing the use of resources, producing new resources, modifying user behaviour or promote other types of gains in terms of flexibility, security, and sustainability. Thus, it is possible to constantly monitor and map all services and infrastructure operating in

your area, enabling preventive actions and immediate solutions for the simple and complex issues that are within your reach (GAMBA, 2020, p. 108).

Currently, the terminology – Smart Cities – is being used by companies and cities as a form of marketing to attract people, investments, and businesses. It is understood that this is because the term reflects the contemporary expression of an urban ideal that, in principle, adds to well-being, communication, efficient management of services and public spaces and sustainability, all interconnected to the world wide web (SANTIAGO; PAYÃO, 2018, p. 795).

Finally, Smart Cities represent a visionary impulse towards the new urbanism, in which innovation and ICTs are mixed in a coordinated and integrated way with traditional urban infrastructure, mainly to stimulate economic competitiveness and ensure sustainable development. “The city becomes an informational organism that reacts and updates everyone about its conditions at any time” (LEMOS, 2013, p. 48), being able to influence even the actions of public managers and citizens.

### **3 NETWORK SOCIETY AND THE CHARACTERIZATION OF ONLINE DEMOCRACY**

Contemporary society has been in a process of structural and cultural transformation for nearly three decades. According to Castells (2005, p. 17), it is a multidimensional process that is associated with the emergence of a new technological paradigm, based on information and communication technologies (ICT's). The internet provided the formation of virtual communities (social networks) based, above all, on the speed of communication provided by the internet, culminating in new patterns of social interaction, replacing territorially limited forms of human interaction.

The new information and communication technologies and the conditions for digital content production linked to an intense, renewing, and conflicting multiculturalism provide a techno cultural transformation. Thus, socializing the exchange of multiple intelligences and promoting, in this way, the insertion of millions of people, previously excluded due to lack of knowledge of productive techniques and competences (GOBBI, 2011, p. 404).

For more than a Digital Society, it is moving towards the unfolding of a Network Society – a term used by Manuel Castells, and which refers to the emerging moment of capitalism for the 4<sup>th</sup> Industrial Revolution. For the author, networks “constitute the new social morphology of our societies and the logical diffusion of networks substantially modifies the operation and results of production processes and of experience, power and culture” (CASTELLS, 2017, p. 553).

The society that unveils itself is not focused only on information, but on the continuous flow of information. Therefore, we speak of network society “because the focus is on the new quality of the possibilities of exchanging information, of communication, in a decentralized format that allows the individual to be a protagonist” (HARTMANN, 2010, p. 73).

Even in the face of unstable situations that came with the new paradigm, it is noteworthy that technology does not determine society, but, in fact, it is society that shapes technology according to needs, values and interests of the people who use it. Thus, communication and information technologies are particularly sensitive to the effects of social uses of technology itself (CASTELLS, 2005, p. 17).

Cyberspace is the new field of economy, culture, politics, and human dialogue, so being part of cyberspace is an indispensable condition for developing the capacity to live in a democratic society. “Dialogue in cyberspace, even if not always strictly political in content or within a highly plural sphere, is the catalyst for civic cultures that can increase the citizen’s political engagement” (HARTMANN, 2010, p. 149).

With a wide range of experiences, initiatives, and political practices – related to democratic systems – supported by equipment, tools and resources for digital communication and information technology, society is geared towards the development of an online or digital democracy – also called cyber democracy.

Considering the existence of a conceptual impropriety of what would be democracy, because “as those who are dedicated to semiotics say, it is a term that is not empty, fillable by various contents; we don’t think of anything tangible when we pronounce the word, and its meaning varies from person to person” (GUERRA FILHO; CARNIO, 2013, p. 152), it is important to clarify the notion of the term that is adopted for the continuation of this work.

The word democracy is strongly present in every political discourse of this century, in such a way “that it is rare for the government, society or the State not to claim to be democratic” (BONAVIDES, 2000, p. 345); however, defining it by running away from all vagueness is still hard work. When Abraham Lincoln pronounced in the famous Gettysburg speech “government of the people, for the people, by the people”, he does not deviate from the rule, but allows a reflection of what comes closest to a consensus.

As Müller (2003, p. 47) explains, the “term ‘democracy’ is not just etymologically derived from people. Democratic States are called “people’s” governments [*Volks herrschaften*]; they justify themselves by saying that in the last instance the people would be ruling [*herrscht*]”. Democracy, therefore, is:

[...] a majority regime with the preservation of minorities, different, for example, from tyranny, aristocracy, oligarchy, or dictatorship, in which power is exercised by small groups or by a single person. Therefore, it is



expected that citizens have a voice in the democratic game and participate in decision-making (RAMOS, 2017, p. 26).

In any case, “democracy, which is no more than a name also under the abuses that infamous it, has nonetheless ceased to be the powerful driving force of the destinies of contemporary society, no matter what meaning it is given” (BONAVIDES, 2000, p. 345). In addition, alongside the difficulty of conceptualizing democracy, Monteiro, Moura and Lacerda (2015) discuss the three basic modalities of democracy and their theoretical assumptions.

They start by dealing with procedural (or representative) democracy, so that, for Weber, it would only be a way of selection and formation of the political body in which political participation is not the fundamental element, while Schumpeter characterized it as a method, a procedure of choice of political leaders. Citizens or the community, within this democratic method, have minimal political involvement, represented by the act of voting in electoral elections, participating in political institutions such as Political Parties (which organize and dispute votes in this competitive market) and make use of a retrospective evaluation of the candidates in case they reject their previous political practice (MONTEIRO; MOURA; LACERDA, 2015).

It is interesting to note that, according to Schumpeter (1961, p. 300), for the classical doctrine “[...] the democratic method is the institutional arrangement for reaching certain political decisions that achieve the common good, with the people themselves deciding, through the election of individuals who come together to do his will.”

It is worth opening a parenthesis here and highlighting that the “exercise of democracy implies free and fair elections, open to all citizens and they not only have rights, but they also have a duty to participate in the political system in order to protect their rights and their freedoms” (RABELO; VIEGAS; VIEGAS, 2012, p. 299).

Taking another way, participatory democracy appears as an alternative model to the representative (procedural) one, emphasizing the issue of participation as a method to face social exclusion and promote citizenship. For Rousseau, political participation is, in this perspective, the key element for decision-making. Therefore, this model recognizes the importance of civil society organizations in mediating relations with the State, defending plural interests and deliberating in different participatory spaces (MONTEIRO; MOURA; LACERDA, 2015).

A new parenthesis opens, according to Müller (2003, p. 57), the “fundamental idea of democracy is the following: normative determination of the type of coexistence of people for the same people”. This will take place indirectly (representation) or semi-directly (participatory and/or deliberative).

This more participatory action of the citizen, however, according to Dahl (1997), would be a characteristic of polyarchies, a term he considers more appropriate, since the term “democracy” would go back to the Greek scenario of a very restricted direct participation that, currently, does not currently exist. According to the author, in fact, the great challenge is to identify the social conditions necessary for the transition from a representative democratic regime to a polyarchy marked by popular participation.

Finally, highlighting the outlines given by Habermas to deliberative democracy, which, based on the recognition of cultural and social pluralism, as well as conflicts of social interests, sought to (re)define democracy by shifting the focus from virtuous citizenship to spaces public and communication procedures. Thus, he argued that the discursive interaction between citizens and representatives constitutes the essential aspect for the formulation of political decisions and in the process of recognition of individual rights, freedoms, and claims (MONTEIRO; MOURA; LACERDA, 2015).

At this point, it is important to highlight that, for Habermas (1997, p. 92), “the public sphere can be described as an adequate network for the communication of contents, positions and opinions; in it, communicational flows are filtered and synthesized, to the point of being condensed into public opinions bundled in specific themes”.

An example of this deliberative democracy would be the “participatory budgets”, initially adopted by the municipality of Porto Alegre (RS) and, later, replicated in several other cities in Brazil and the world. Despite the adjective “participatory” used, it is a space for democratic deliberation, in which citizens decide how public resources will be spent, without delegating this action to their elected representatives (RAMOS JÚNIOR; DIAS, 2020).

If citizen participation is effective in participatory budgets, it ends up fulfilling its main function which, according to Pateman (1992, p. 61) “[...] is educational; educational in the broadest sense of the word, both in the psychological aspect and in the acquisition of democratic practices and skills and procedures”.

Despite all the theories advocating the adoption of participatory and deliberative democracies (and even polyarchy), representative democracy - traditionally based on universal suffrage - is still the model widely used today, it is understood that, in fact, —not there is democracy without participation, without people. The regime will be even more democratic the more it has cleared channels, obstacles, obstacles, for the free and direct expression of the will of the citizen” (RABELO; VIEGAS; VIEGAS, 2012, p. 231). Therefore, representative democracy cannot survive without participatory democracy, this is complementary to the former, “constituting a legitimate form of improvement of institutions, with the consequence

of re-encountering the nation with the representatives of the people, of society with the State, of democracy with the government and the citizen with the administrator” (CAMBI, 2011, p. 190).

Foreshadowing what was to come, Castells (2003, p. 152) stated that “instead of being used by the government to watch over its citizens, the Internet could be used by citizens to watch over their government. It could become an instrument of control, information, participation, even decision-making, from the bottom up”.

These are exactly the new practices harmonized by cyber democracy, which emerge from “a new electronic technological infrastructure provided by networked computers and a large number of communication and organization devices, storage and provision of data and information online” (RABELO; VIEGAS; VIEGAS, 2012, p. 231).

Considering that, the functioning of a democratic system is directly related to people’s level of information. Freedom of expression and demonstration, especially through actions independent of the media, helps to form public opinion and prevent incitement and manipulation of the governed (CAMBI, 2011, p. 187).

However, it is important to highlight that, for now, research carried out on transparency portals of Brazilian capitals concluded that “there are no effective openings for this citizen participation in public affairs by these governments and there are no ruptures or radically innovative innovations in this sense” (SILVA, 2005, p. 465).

In summary, the real potential for transforming the political process with the use of cyberspace, as explained by Hartmann (2010, p. 143), “is in communication, in the formation of political discourse communities, in free access to data that inform decisions and in aspects related to the way the individual will is formed and altered”. Consequently, (re)thinking (cyber) democracy means adopting the normative perspective that the use of Information and Communication Technologies favours democratic practices and does not diminish them.

#### **4 DEMOCRACY AND THE EXERCISE OF CITIZENSHIP IN THE CONTEXT OF SMART CITIES**

As can be seen – in section 1 – industrial revolutions significantly influence new urban development agendas. Thus, cities have sought to invest in the creation of smart technology environments as a strategy to leverage broad processes of urban recovery and development. Efficiency in urban dimensions progresses “based on intelligent management and information and communication technologies, integrated with the active participation of citizens. This would imply a new type of governance,

as well as the effective participation of citizens in public policies” (SANTIAGO; PAYÃO, 2018, p. 795).

The admission of new technologies in the urban environment is not restricted to providing cities with greater connectivity, sensors and artificial intelligence, but also represents the adoption of a broader and more ambitious objective: that of rethinking the organization of cities, considering political models and capable of responding to long-term urban challenges, such as concentration of income, housing costs, sustainable mobility and corruption, in addition to systematizing the collective intelligence of citizens through the use of participatory processes in political decisions (MOROZOV; BRIA, 2019 , p. 83).

The IoT and, consequently, the Smart Cities, arise not only to expand the potential of public services offered to citizens, but as a tool for popular participation and digital conformation of certain dimensions of Democratic States. In this sense, Ramos (2017, p. 72) asserts that the Network Society evolves in three basic levels through connectivity:

The first level is established when citizens access government information, legislation, and public policies over the internet. The second level is when these same citizens carry out transactions and procedures of the most diverse types using network technology. The third and last level is when citizens are able, through real-time communication channels, to participate in the decisions of their city, state, country, through connectivity.

In this way, the virtual environment corresponds to an adequate means for the exercise of participatory democracy, because democracy is a regime in which all power comes from the people and is exercised directly by the people or on behalf of the people (and for the people). The inference from this is that a regime loses democratic legitimacy when the citizen does not participate in the decision-making process that interfere with the political community (RABELO; VIEGAS; VIEGAS, 2012, p. 232).

In this process of expanding democratic spaces, the State must encourage communication between cyberspace communities, in addition to instigating plurality within these communities. It must offer adequate tools within the virtual space for the growth of the democratic process, such as access to documents and “information (especially of relevant public interest), discussion moderation services, subsidies for activism, forums for the debate of technical discussions and mechanisms to summarize the arguments raised in discussions” (HARTMANN, 2010, p. 148).

In Brazil, the issue of participatory democracy was exhaustively addressed by the City Statute (Law no. 10.257 of 2001):

[...] foreseeing in its article 2, item II, among the general guidelines of urban policy, democratic management through the participation of the population and associations representing the various segments of the community in the formulation, execution and monitoring of urban development plans,

programs, and projects. In the democratic management of the city, the following instruments can be used, among others (Article 43): a) collegiate bodies of urban policy, at the national, state, and county levels; b) debates, hearings, and public consultations; c) conferences on matters of urban interest, at the national, state and county levels; d) popular initiative for bills and urban development plans, programs, and projects. As for participatory budget management (article 4, item III, subheading f, and article 44), debates, hearings, and public consultations on the proposals of the multi-year plan, the budget guidelines law and the annual budget must be included, as a mandatory condition for approval by the City Council. Still, article 45 foresees that the managing bodies of metropolitan regions and urban agglomerations will include mandatory and significant participation of the population and associations representing the various segments of the community, in order to ensure direct control of their activities and the full exercise of citizenship (CAMBI, 2011, p 192).

It is noticed that Brazilian urban planning – still stained by the social wound of inequality (social, cultural, and economic) – does not intend to distance itself from the citizen’s presence in political discussions. The democratic management of the city must be constituted “from up close and from within”, placing the needs of local communities at the centre of the decision-making process. Thus, through the citizen’s perspective, the government can identify the problems and potential of each part of the city, to guarantee quality of life, education, training and employment opportunities, new business models and connectivity. Therefore:

[...] It is important to have an effective policy to open data and encourage citizens to see cell phones and social networks as political instruments. Smart Cities can help both public authorities to recognize problems in real time, and citizens to produce information, helping to map, discuss and face these difficulties. Knowledge can generate political actions and creative solutions if residents are informed — in a detailed and systematic way — about pollution rates, noise levels and traffic or public safety problems in their region, for example (LEMOS, 2013, p. 48).

In this sense, despite all the controversy that surrounds it, the concept adopted by the Brazilian Charter for Smart Cities is extremely important:

Smart Cities in Brazil are committed to sustainable urban development and digital transformation, in their economic, environmental and sociocultural aspects, which act in a planned, innovative, inclusive and networked way, promote digital literacy, collaborative governance and management and use technologies to solve concrete problems, create opportunities, offer services efficiently, reduce inequalities, increase resilience and improve the quality of life of all people, ensuring the safe and responsible use of data and information and communication technologies (SOUSA JÚNIOR *et al.*, 2021, p. 8)

In the same context of Smart Cities, one speaks of “smart citizens”, because with “accessible knowledge that is closer to their daily activities, they cannot only

have a better perception of the space where they live, but also propose creative and innovative solutions for their cities” (LEMOS, 2013, p. 48).

In the same sense, given the various projects for Smart Cities, Depiné *et al.* (2018, p. 54-55) states that the need for a second generation of Smart Cities, that of smart human cities, was discussed, which seeks to balance the technological infrastructure of the traditional concept with softer factors such as: social engagement, protagonist citizenship and interaction of people in physical and virtual environments.

It is noteworthy that in digital environments – notably cyberspace – the strengthening of a participatory civic culture depends on social representation, so that in an elite virtual world this becomes undoable. Universal access to the Internet – or at least representative – is fundamental for the exercise of citizenship in the context of Smart Cities. In this sense, the “world is not divided between rich and poor, but between the informed and those left out of the age of connections. Right now, a few billion poor people live in the era of digital blackout – they are disconnected from the world” (VILCHES, 2003, p. 32).

Consequently, the social inclusion of this group would take place through the democratization of access to technological devices, digital networks, and digital literacy. As an example, Siqueira, Lopes and Carmo (2019, p. 278) cite the Estonian government, a pioneer in digital inclusion, providing free computer training to citizens who, through a digital identification program, can do online almost all county or federal services in a matter of minutes.

Another very interesting example is the one adopted by the City of Buenos Aires, through the application BA 147 (ARGENTINA, s.d.), which allows citizens to request dozens of public services through their smartphone. In addition, before the start of any public work, residents in the vicinity of the work are invited to collaborate with the Government in the supervision of the work and, from then on, they can follow the progress of the works through the aforementioned application, checking, for example, whether deadlines are being met, whether there is staff working on site, etc. When collaborating with the Government, citizens are rewarded through a system of points that can later be exchanged for cultural benefits (POLÍTICA..., 2017).

Rewarding citizens who agree to effectively participate in public management, alongside the Government, is one of the attempts to overcome one of the obstacles indicated for cyber democracy:

[...] the very characteristics of the political culture shared by our contemporaries seem to indicate anything but the hyper-engagement of individuals in political programs and positions, a willingness to sustainably integrate organized forms of so-called civil society, an interest in large and

constant participation in serious debates about severe issues (GOMES, 2005, p. 221).

When analyzing this application and its features, Álvaro Herrero, then Undersecretary of Strategic Management in Buenos Aires, said: “Innovation is changing attitudes. It is not necessarily about technology. Technology is an instrument that facilitates innovation. Putting the citizen first is to innovate” (POLÍTICA..., 2017, online).

All these processes of popular participation, with the IoT, can be leveraged, as they will count, in addition to smartphones, with the interaction of other equipment connected to the internet.

From these examples, it is believed that the new information and communication technology systems provided by the IoT, in harmony with the process of democratization of virtual spaces, will favor the formation of participatory communities, guaranteeing more agile, transparent, and efficient intelligent government services, through sharing information. “In other words, Smart Cities can and can and should leverage the optimization of urban life, whether with advanced services in the formal city or in new opportunities in informal territories” (LEITE; AWAD, 2012, p. 9).

Finally, it can be agreed with Oliveira and CampoLargo (2014, p. 2336) when they state that cities are only intelligent when “they make the most of the human capital of their citizens, create innovation ecosystems where new dynamics of the creation of wealth and employment are developed and promote new forms of participatory governance”. Now, it is the citizens – not the technology – who are the real protagonists of urban intelligence, hence the need to engage them in issues of public interest to improve the quality of life for all.

## 5 FINAL CONSIDERATIONS

In this work, there is an attempt to relate the theories of democracy with the elements of description of the Network Society, especially regarding the internet, the devices connected to it (IoT) and Smart Cities, aiming to identify within the virtual environment a new field for public debate and popular participation in political decisions.

Overall, the intelligence of these cities stems from the existing digital infrastructure and secure internet access, an intelligent physical structure (IoT) that allows the use of collected data to guide the management of cities, but mainly in the recognition that the services focus on the needs of the citizen.

Although there are no definitive answers to the proposed questions, it is possible to conclude that executing Smart Cities projects does not only mean

adhering to information and communication technologies. Only by providing objects with sensors connected to the internet, these initiatives will not necessarily create a more human and promising city. Without political discussions about new tools, there is no guarantee that we will have smarter cities in the future. In view of this, in this research, the prominence given to technology was shifted to those who are the most interested: the citizens.

Focusing on citizens, it is possible that ICTs and new technologies, including the IoT, allow a better exercise of citizenship in today's societies, expanding democratic participation in contemporary cities. Therefore, it is important to reaffirm that it is essential that such technologies be adopted from the figure of the citizen, in order to allow him to interconnect with the infrastructure of cities, with other citizens and with the Public Power, boosting human and improving everyone's quality of life.

After all, as it turned out, periodic elections are only equivalent to a procedural film of the degree of democracy in a social sphere. For the people, in fact, to have access to power in the management of the city, it is necessary for them to be able to interact and act permanently with them. Thus, smart cities will not only expand the potential of public services offered to citizens but also will operate as a tool for popular participation and digital conformation of certain dimensions of Democratic States.

Furthermore, one of the pillars of democracy is the establishment and maintenance of government structures that limit the concentration of power, so if the resources generated by the development of the Internet of Things allow citizen participation to, for example, restrict the power of the Administration, and then the constitution of Smart Cities could bring countless benefits to democracy.

Technologies linked to IoT open space for the stimulation of public debate through consultations, surveys, consultative votes, and submission of projects to citizens, increasingly directing the focus of cities towards citizen protagonist, through their engagement in issues of public interest.

Finally, in the context of cyber democracy, the use of information and communication technologies must facilitate the connection and involvement of government and citizens, with the intention of co-creating and rebuilding urban communities. New governance models are expected, in which, based on the ideals of participatory democracy, citizens have access to information, are heard, and propose solutions to meet their interests and needs, recreating a new sense of belonging and identity, leading to a better and happier life.

As a result, effectively deliberative cyber democracy, which for the time being can be considered a myth, tends to become a reality in Brazilian society.



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## NOTE

The article entitled, "DEMOCRACY IN THE NETWORK SOCIETY: CITIZENSHIP AND POPULAR PARTICIPATION IN THE SMART CITIES CONTEXT", submitted to the Revista Opinião Jurídica, represents a direct result of the research developed by the authors in the subject, "Theories of Democracy and Regulation", of the Doctoral Course in Law, of the Graduate Program in Law at the University of Marília (PPGD-UNIMAR), with the authors concomitantly carrying out the planning, execution and review tasks as follows: 1) Diego Bianchi de Oliveira developed the process of data collection, analysis of empirical material, filing and textual writing; 2) Jefferson Aparecido Dias brought theoretical foundations to all chapters, in addition to preparing the structured summary, the adjustments proposed by the evaluators and the final grammatical review of the text; 3) Walkiria Martinez Heinrich Ferrer also collaborated with the theoretical foundations of all chapters, revised all citations and promoted adaptation to ABNT/Brazil norms and parameters

adopted by the Journal. Thus, this article is a collective work. Finally, special thanks are given to Prof. Heloisa Helou Doca, from UNIMAR, responsible for preparing the English version.

## NOTA

O artigo intitulado "DEMOCRACY IN THE NETWORK SOCIETY: CITIZENSHIP AND POPULAR PARTICIPATION IN THE SMART CITIES CONTEXT", submetido à Revista Opinião Jurídica, representa fruto direto das pesquisas desenvolvidas pelos autores na disciplina "Teorias da Democracia e Regulação", do Curso de Doutorado em Direito, do Programa de Pós-Graduação em Direito da Universidade de Marília (PPGD-UNIMAR), tendo os autores realizado, concomitantemente, as tarefas de planejamento, execução e revisão da seguinte forma: 1) Diego Bianchi de Oliveira desenvolveu o processo de coleta dos dados, análise do material empírico, fichamento e redação textual; 2) Jefferson Aparecido Dias trouxe fundamentos teóricos para todos os capítulos, além de elaborar o resumo estruturado, as adequações propostas pelos avaliadores e a revisão gramatical final do texto; 3) Walkiria Martinez Heinrich Ferrer também colaborou com os fundamentos teóricos de todos os capítulos, revisou todas as citações e promoveu a adequação às normas da ABNT/Brasil e aos parâmetros adotados pela Revista. Assim, o presente artigo é uma obra de cunho coletivo. Por fim, apresenta-se um agradecimento especial à Prof. Heloisa Helou Doca, da UNIMAR, responsável pela elaboração da versão em inglês.

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